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Mr. Charles E. McEwan  
Ramtek Corporation  
2211 Lawson Lane  
Santa Clara, California 95050

H. STUART CUNNINGHAM, CLERK  
UNITED STATES DISTRICT COURT

Dear Mr. McEwan:

(Confirming our telephone call of this date.)

Re: Bally Manufacturing vs. D. Gottlieb & Co.

Case No. 78 C 2246

Our File No. 12684 CW

Your deposition, taken January 31, 1980, in your offices  
is now transcribed.

The deposition-original is being held in our office for 30 days,  
pending filing with the court, to afford you a reasonable op-  
portunity to read and sign same. You may come in any week day  
between 8:30 AM and 4:30 PM for this purpose.

If we do not hear from you by March 14, 1980, we will  
assume you are waiving your signature and will then file the  
deposition-original.

Yours very truly,

OBUJEN & MCCUTCHEON, INC.

by: M. G. Obujen

MGO:hp

cc: Wayne M. Harding, Esq.  
Donald L. Welsh, Esq.  
William T. Rifkin, Esq.

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

ROCKETED  
JUL 14 1980

BALLY MANUFACTURING CORPORATION,

Plaintiff,

vs.

Civil Action No. 78C 2246

D. GOTTLIEB & CO., a corporation,  
and WILLIAMS ELECTRONICS, INC., a  
corporation; and ROCKWELL  
INTERNATIONAL CORPORATION, a  
corporation,

Defendants.

BE IT REMEMBERED that, pursuant to notice and subpoena, and  
on Thursday, January 31, 1980, commencing at the hour of 10:10  
A.M., at Ramtek Corporation, 2211 Lawson Lane, Santa Clara,  
California, before me, CAROL A. WIBLE, a Certified Shorthand  
Reporter, License No. 3391, and a Notary Public in and for the  
County of Santa Clara, personally appeared

CHARLES E. McEWAN

who was called as a witness by Defendants.

**OBUJEN & MCCUTCHEON**  
OFFICIAL REPORTERS & NOTARIES

2555 PARK BOULEVARD  
PALO ALTO, CALIFORNIA 94306

(415) 326-9920

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FOR THE NORTHERN DISTRICT OF ILLINOIS  
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I N D E X

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<u>Defendant's Exhibits:</u>			
GD300	A one-page document, an invoice on the letterhead of Future Packaging, dated 10-21-75.		24
GD301-A	A one-page document on the letterhead of Ramtek to C.E. McEwan from T.J. Adams, dated August 2, 1974.		28
GD301-B	A three-page document entitled "Space Planning."		29
GD301-C	A 23-page document, the first page of which is entitled "Pinball Game, Costing Relationship," dated 3-31-75.		29
GD301-D	A four-page document, the first page of which is on the letterhead of Ramtek to C.E. McEwan from T.J. Adams, dated September 20, 1974.		29
GD301-E	A one-page document entitled "Pinball Game, Costing Relationship," undated.		29
GD301-F	A one-page document, handwritten, entitled "Pinball, Cost Recap," undated.		29
GD301-G	A two-page document entitled "Pinball Financial Analysis," undated.		29
GD301-H	A two-page document, the first page of which is entitled "Pinball Capital Equipment Schedule, Background Notes," undated.		29
GD301-I	A two-page document, the first page of which is entitled "Pinball Cost of Sales, Background Notes," undated.		29
GD301-J	A four-page document, the first page of which is entitled "Pinball Cost of Production, Background Notes," undated.		29
GD301-K	A two-page document, the first page of which is entitled "Pinball Manpower and Labor Cost, Background Notes," undated.		29



Defendant's Exhibits (Continued):

Page

GD301-L	A two-page document, the first page of which is entitled "Pinball Development Expense, Background Notes," undated.	30
GD301-M	A two-page document, the first page of which is entitled "Pinball Sales and Service Expense, Background Notes," undated.	30
GD301-N	A two-page document, the first page of which is entitled "Pinball Cash Flow Background and Notes," undated.	30
GD302	A two-page document, a letter on the letterhead of Ramtek to Mr. Bill O'Donald from Charles E. McEwan, dated October 28, 1974.	54

Examination by:

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Mr. Welsh	55

-oOo-

CHARLES E. MANN

having first been duly sworn by the Notary Public to tell the truth, the whole truth and nothing but the truth, was then asked:

A P P E A R A N C E S testified as follows:

MR. WELSH: Could I make a statement?

For Plaintiff: BY: FITCH, EVEN & TABIN, ESQS.,  
DONALD L. WELSH, ESQ. and  
A. SIDNEY KATZ, ESQ.  
135 South La Salle Street  
Chicago, Illinois 60603

For Defendants: BY: ARNOLD, WHITE & DURKEE, ESQS.,  
D. Gottlieb & Co. BY: WAYNE M. HARDING, ESQ.  
and Rockwell International: 2100 Transco Tower  
Houston, Texas 77056

For Defendant: BY: McDougall, Hersh & Scott, ESQS.,  
Williams BY: WILLIAM T. RIFKIN, ESQ.  
Electronics: 135 South La Salle Street  
Chicago, Illinois 60603

EXAMINATION BY MR. HARDING

MR. HARDING: Q Sir, would you state your name, please?

THE WITNESS: A Charles E. Mann.

Q Are you employed?

A Yes.

Q With whom?

A Pantek Corporation.

Q And do you have a title?

A President and Chairman of the Board.

Q How long have you been President of Pantek?

A Since September of 1971.

Q Have you been President continuously since September

CHARLES E. McEWAN

having first been duly sworn by the Notary  
Public to tell the truth, the whole truth  
and nothing but the truth, was thereupon  
examined and testified as follows:

MR. WELSH: Could I make a statement?

MR. HARDING: You surely may.

MR. WELSH: Okay. Before we begin, I would like the  
record to show that before this deposition commenced, Mr.  
Harding indicated to us that he had notified Mr. Myers of this  
deposition, but that no formal notice had been served on Mr.  
Myers in the Game Plan case.

MR. HARDING: The notification, to my recollection, was  
just informal comments. I believe Mr. Myers was informed of  
the deposition.

EXAMINATION BY MR. HARDING

MR. HARDING: Q Sir, would you state your name, please?

THE WITNESS: A Charles E. McEwan.

Q Are you employed?

A Yes.

Q With whom?

A Ramtek Corporation.

Q And do you have a title?

A Yes President and Chairman of the Board.

Q How long have you been President of Ramtek?

A Since September of 1971.

Q Have you been President continuously since September

1 '71 to present?

2 A Yes.

3 Q As President of Ramtek, were you aware of the day to  
4 day operations of the company in the 1973 through '76 time  
5 frame?

6 A Yes, Ramtek's organization, and still the organiza-  
7 tion today, all -- development and development projects and  
8 funds comes through the office of the President.

9 Q What was the business of Ramtek in the time frame,  
10 1973 through '76?

11 A Ramtek has always been a two business company. We  
12 produce graphic displays for computer output devices, primarily  
13 for medicine, and we have built electronic games.

14 Q And during the time frame '73 through '76, that was  
15 your business?

16 A Yes, we did both.

17 Q Do you recall the nature of the electronic games that  
18 you built in 1973 through '75?

19 A Well, for synergism, the company has built primarily  
20 video games because our standard business of computer displays  
21 is typically for the same type of product, so we built what we  
22 call the video game or electronic game, which was really a  
23 subset of one of our graphic display systems.

24 Q All right. In the 1973 through '75 time frame, did  
25 you investigate any nonvideo games as a possibility for a  
26 Ramtek product?

27 A Well, one of the things that you do in the game  
28 business, and we did it always, if you look at most of the

1 games we built, they were games that had been built prior  
2 using mechanical techniques or some, you know, older  
3 technology; driving games with rotating drums and things like  
4 that. Now we can do it with a video game, but the mechanical  
5 portions of it were the same; steering wheels, gas pedals,  
6 whatever.

7 The Bally or the ping-pong game, which was the  
8 starting of the electronic game business, was a different  
9 concept. Everything after that was pretty much old fashion  
10 games being rebuilt using modern technology, so as a conse-  
11 quence we looked at probably every old electro-mechanical  
12 game from driving games to submarine games to pinball  
13 machines, slot machines; we looked at everything.

14 Q Did you commence an investigation on pinball machines?

15 A Yes. We -- well, we, you know, we picked the one  
16 volume item that the games industry has existed on since its  
17 -- really in the last thirty years has been the bread and  
18 butter product of the whole industry has been the pinball  
19 machine. They're what we call arcade-type games which would  
20 be the video games or shooting games or anything like that.  
21 They have been maybe a twenty to thirty million dollars a  
22 year industry total. The pinball machine industry was a  
23 one and a half to two and a half million -- one hundred and  
24 fifty to two hundred and fifty million dollar industry, and it  
25 was a steady high production, high volume product.

26 Q As of what date?

27 A What date -- this is going back into '73, '74 when  
28 we were looking at these products.

1           Anyway, we did an extensive -- I think an extensive  
2 look at the pinball machine industry as probably one that  
3 could be modified or changed using electronic approaches and  
4 it had the advantage of having high volume production.

5       Q   How are you familiar with what you refer to as the  
6 industry and the various figures that you have quoted?

7       A   Well, if you delve into the game business, you will  
8 find that nobody has ever really done a nice, big study like  
9 you can find on almost every other industry in the world, you  
10 know, created strategies or computer sciences where somebody  
11 has gone in and done an extensive study on the industry.  
12 Nobody has, as far as to my knowledge, even to this day, has  
13 ever done one in the game business, so what numbers I throw  
14 out are typically numbers we have internally created by simply  
15 adding up the manufacturer's numbers, which are somewhat vague,  
16 and what I'm saying is how big is the pinball machine market.  
17 You could come to that by saying, "Do I know what Gottlieb  
18 builds a week?" I can get that number and I would know what  
19 their sale price is. I know what Williams builds -- at the  
20 time we did this we knew what Williams built, and we knew what  
21 Gottlieb built and we knew what Bally built, and then there  
22 were a couple -- let's see, who else was building at that time.  
23 I guess at that time maybe Chicago Coin was building an  
24 occasional pinball machine. They weren't a full-blown pinball  
25 machine company, so we could add up those numbers and see how  
26 big the industry was, and that is the same with the arcade  
27 business.

28       You could add Atari's numbers, Ramtek's numbers,

1 Allied Leisure's numbers and Midway's numbers and then add a  
2 little clump of others and add them all up and say, "This is  
3 how big the arcade business is,"

4 Q And did you become familiar with these numbers by  
5 virtue of being President of Ramtek?

6 A Sure.

7 Q When you referred to the electronic approach in  
8 connection with pinball, have you ever heard of the term  
9 microprocessor?

10 A Are you asking me if I heard of the term? I  
11 microprocessor now or -- decided that we would like to give

12 Q At that time.

13 A At that time, well, you know, if you look at where  
14 we are physically located, we are about one mile from Intel  
15 Corporation and we have circled them -- we have always been  
16 about a mile away from Intel, and Intel is the so-called  
17 inventor of the microprocessor, so we have known about  
18 microprocessors probably since the day they were introduced;  
19 at least all of our engineering people have,

20 Q Are you familiar with the term microcomputer?

21 A Sure.

22 Q Did the extensive look at pinball that you mention-  
23 ed include the use of a microprocessor?

24 A Well, I think our initial look at it did not. What  
25 we were doing was -- was we -- I personally visited Bally,  
26 Williams and Chicago Coin, looked at the way they were built,  
27 got some pretty good numbers on labor content and decided that  
28 if you replaced everything underneath the table and in the back



1 box with electronics hardware, you could initiate some  
2 tremendous labor and cost savings; did not decide whether it  
3 need be microprocessor or a TTL design at that time, at that  
4 early stage.

5 Q And what is the date of this early stage?

6 A Oh, that was probably in '73, '74.

7 Q End of '73, early '74?

8 A Well, mostly in '73, yes, somewhere in there.

9 Q Did you reach any conclusions other than the ones  
10 you have mentioned in connection with your initial look?

11 A Well, I think we decided that we would like to give it  
12 a try. Ramtek made that decision, that we would like -- we  
13 kind of liked the game business. It looked like a good  
14 business at the time, and we thought we would -- if we were  
15 going to stay in it, we needed a bread and butter product, one  
16 that could be built on a yearly basis instead of on a monthly  
17 basis, so we -- the pinball machine had that ability and that's  
18 why we went into it.

19 Q When you say Ramtek made the decision, are you  
20 referring to any individual at Ramtek?

21 A Mostly myself.

22 Q Do you recall any particular type of design approach  
23 which was selected by Ramtek when it went forward with this  
24 program?

25 A Yes.. Well, our -- our chief engineer at the time was  
26 a fellow by the name of Gaymond Schultz, and he went through a  
27 trade off and determined that -- a technique trade off trading  
28 off TTL logic versus microprocessor techniques and came up



1 with a fairly close competitive approach using microprocessor  
2 and microcomputer, which was the one we decided to use. It  
3 wasn't at the time a lot cheaper than the TTL, but it gave us  
4 versatility that we wouldn't have had in the TTL approach.

5 Q When you say we decided, who is we?

6 A That decision was probably a three or four man  
7 decision; probably myself, Gaymond Schultz, Hal Ivy and  
8 potentially somebody else. It may have been Bob Jonesi or  
9 someone else involved.

10 Q Is there any particular date that you would say that  
11 the pinball project formally commenced?

12 A I think we made the decision to go into it in probably  
13 January or February 1974.

14 In April When I say we again, I'm probably primarily saying  
15 myself, probably in discussions with Hal Ivy and other people,  
16 but my decision. We started looking for somebody we thought  
17 could do playfield designs and the mechanical portion of the  
18 pinball machine, which is not Ramtek's forte, and we hired  
19 Bob Jonesi out of Williams -- actually Seeberg Williams at  
20 the time. We hired him and I think we hired him in March of  
21 1974.

22 Q Do you recall any discussions you had with Mr. Jonesi  
23 around the time that you hired him concerning why he was being  
24 hired?

25 A Well, I don't think there was ever any doubt in the  
26 preliminary discussions or when he showed up for work that we  
27 were going to go into the pinball machine business. In fact,  
28 he arrived at Ramtek when he started work which, I think, was

1 March with preliminary drawings of pinball machine playfields.

2 Q What do you mean by preliminary drawings?

3 A They were artist's conceptions of different molded  
4 chassis and molded games that could be built using other than  
5 wooden cabinets, which we thought -- again, were one of the  
6 things we discussed extensively when we interviewed him and  
7 talked in March was the fact that at this time some of the  
8 structural forms were becoming competitive with wood cabinets,  
9 and they give you big freedom of design effort on a playfield,  
10 not only in the internal -- I mean, you could build a round  
11 game if you wanted to, or you could build a -- you know, a  
12 square one; anything you wanted to do because of the free form  
13 of molded plastic, so all of the concepts that he arrived with  
14 in April were free form designs of which one of them we chose  
15 to go with, one of them we used in our final design of the  
16 game.

17 Q Do you recall any discussion around this time as to  
18 whether the pinball approach that Ramtek was going to investi-  
19 gate was going to be an electronic approach?

20 A When we went in it was to be electronic. I think  
21 there was still some trade offs to be made whether it was  
22 going to be microprocessor or TTL at that point.

23 Q Did you inform Mr. Jonesi of this?

24 A I think he was involved in those meetings.

25 There was some other discussion as to -- at the same  
26 time, you see, it was about the same time when the calculators  
27 really became prevalent or, you know, you started seeing the  
28 hand-held calculators; very cheap chips, very cheap approaches,

1 but one of the things we looked at as another potential  
2 approach to the logic was to use a stored program calculator-  
3 type chip to do the job, and it turned out to be not as  
4 feasible as the microprocessor.

5 Q Was this in the same time frame?

6 A You know, once you decide to do something, there is  
7 about fifteen things going on simultaneously. It's kind of  
8 hard for me to remember exactly when we started the mechanical  
9 design versus when we started electronic design because, you  
10 know, at the same time we were doing all these things. We  
11 were designing other games, so it wasn't a one hundred percent  
12 project. There were other things going on simultaneously.

13 Q Do you recall who looked at the stored program  
14 calculator approach?

15 A All of those decisions would have been -- or at least  
16 "look-sees" would have been Gaymond Schultz.

17 Q Did Ramtek ever proceed with the construction of a  
18 microcomputer controlled pinball game?

19 A We started in on it -- it was probably in May or  
20 June, and I can't define -- May or June of 1974, on the  
21 preliminary design effort and we very quickly decided that the  
22 -- on the 4040 approach as the one we'd use, the microprocessor,  
23 but there were a lot of things that fell before the electronic  
24 portion of it, even though it was going on simultaneously.

25 We went out much quicker for moldings and play boards  
26 and all kinds of other things prior to getting the actual  
27 electronics started. The electronic portion of it probably  
28 started in July, late July, early August.

1 Q You mentioned the 4040. Is that correct or was it  
2 4004?

3 MR. WELSH: I object to the question as leading, Counsel.  
4 I've noticed a lot of leading questions and I question that  
5 it's not proper.

6 MR. HARDING: Q Do you recall the type of microcomputer  
7 that was eventually selected to go into the Ramtek development?

8 THE WITNESS: A This is embarrassing, but I don't  
9 remember if it was 4004 or 4040.

10 Q Okay.

11 A One of the two, and they were both built by Intel.

12 Q Did the Ramtek development ever result in a pinball  
13 game that became operational?

14 A Yes. We -- the exact date that the whole system was  
15 operational, it's hard for me to remember exactly because  
16 there were pieces at various times that were made to work.

17 I think we had cabinets and cabinets being put  
18 together in September, October, maybe a little sooner, and we  
19 had electronic simulators, you know, using the Intel Intelect  
20 4 to develop, so we were running little simulation programs on  
21 portions of the software, but the whole project was -- it was  
22 kind of broken into three areas.

23 We had the electronics portion of the development,  
24 the cabinet and esthetics portion of it and the playfield  
25 portion of it, so we started doing mock-ups on the playfield  
26 and the mechanical assembly and electronics kind of simultan-  
27 eously, but kind of a little bit on different schedules of  
28 when the whole thing would come together, which, to me, was

1 either the dead end of 1974, month of December seems to ring  
2 a bell for some reason in '74, but for sure by early '75 we  
3 had a full working system.

4 Q You mentioned Intellect 4. Can you tell me briefly  
5 what that is?

6 A That's a -- we did a programming for the microprocessor  
7 and two approaches. We used a timeshare system, which we  
8 internally had a teletype on-line to a larger computer time-  
9 share company that we bought time on their computer and it  
10 would assemble our code and then send us back the tapes that  
11 we could load into the microprocessor, the programs.

12 That got to be fairly expensive and we decided then  
13 to go on to a -- to buy a microprocessor programming device  
14 which Intel built called an Intellect 4 where we could actually  
15 do our programming in-house, generate our tapes. It had  
16 another feature that was quite nice because we could actually  
17 run the programs on the Intellect 4 which allowed us then to  
18 go into a debug stage on the product much sooner than using  
19 the timeshare system.

20 Q When you say it runs the programs -- from that was?

21 A Well, okay. Let's back up just a little bit.

22 A microprocessor is nothing more than a chip itself.  
23 There is no console associated with it, no keyboard, no way  
24 to interact or to put programs into it. It's just a processor  
25 that performs functions. You've got to have some way to  
26 operate with this device, to store programs into its memory,  
27 to sequence it through its programs so you could check if it's  
28 making the right calculations, and Intellect 4 is that console.

1 It lets you actually hook up to or replace the microcomputer  
2 with this console which gives you lights and a keyboard and  
3 input devices so you could -- it effectively becomes the  
4 microprocessor during this debug stage.

5 Q Was the Intellect 4 ever hooked up to a pinball  
6 game?

7 A I think probably the first six weeks, maybe the first  
8 two months, that we ran the pinball machine we ran it with  
9 the Intellect, a long cable going in and plugging into the pin-  
10 ball machine, so all of the logic was running inside of the  
11 Intellect 4.

12 Q Did you play the pinball game during this time frame  
13 when the Intellect was hooked up to it?

14 MR. WELSH: Objection to the question, indefinite as to  
15 what time frame.

16 MR. HARDING: Q Well, you mentioned that there was a  
17 six weeks or two month period that the Intellect 4 was  
18 connected to the pinball game; is that correct?

19 THE WITNESS: A Yes.

20 Q And do you know generally what time frame that was?

21 A Like I say, I think it was December and January,  
22 December of '74, January of '75, probably the early part of  
23 December for sure would have been on the Intellect 4.

24 Q Well, whenever this particular date was, during this  
25 six weeks or two month period, did you ever play the pinball  
26 game that was -- that was operated by the Intellect 4?

27 A I think a good percentage of the people employed at  
28 Ramtek played the pinball game while it was hooked up to the



1 Intellect 4.

2 Q Would that include you?

3 A I played it a number of times.

4 Q Do you recall seeing anyone else play the game?

5 A All the people working on it, myself, Bob Jonesi,  
6 Hal Ivy, Tom Adams, Roy Nesi, Ken Acgard.

7 Q During the time that you played the pinball game  
8 operated by the Intellect 4, did you form any conclusions as  
9 to how satisfactorily the game played?

10 A Well, I think it was -- I think we all agreed or  
11 everybody who had played it, that it was a stupendous game.  
12 The features of it were things that had never been done before  
13 on a pinball game and the play action was extremely good.  
14 There were a lot of problems, obviously.

15 Running through the Intellect with a cable was  
16 creating some noise problems, but we didn't even bother tackling  
17 those problems at that point because we knew once we tightened  
18 the logic up, most of them would go away.

19 We were running it over probably a ten, twelve foot  
20 cable at the time.

21 Q Now, you said that -- you mentioned we. My question  
22 is directed to whether you formed any conclusions.

23 A Well, yes, I -- if you look at a pinball machine, it  
24 -- the game we called Lucky Dice, it had probably every feature  
25 that you could put on a pinball machine. It had multiple  
26 scoring, all kinds of targets. It had variations that were  
27 impossible, and truly impossible, to have put into a pinball  
28 machine without a programmable -- or a computer running it.

1 You couldn't have done it with relay logic, the  
2 techniques that had been used up until then. It was  
3 questionable you could even do it with solid state TTL logic.

4 Q Did you form any conclusions as to how satisfactorily  
5 the game played when the Intellect 4 was controlling it?

6 A I think it played -- played as we expected it to.  
7 The conclusion is it played fairly good. Once we finished it,  
8 it played better and it always played better and we continued  
9 to improve that product on a steady basis.

10 Q Was the -- Lucky Dice was the name of the pinball  
11 game; is that correct?

12 A That's correct.

13 Q I want to show you some Exhibits from an earlier  
14 deposition in this case. It's a photograph marked GD111,  
15 GD112, and ask you if you can identify the subject matter of  
16 those photographs?

17 A Yes. This is the pinball machine that we call Lucky  
18 Dice that Ramtek manufactured or produced.

19 Q And this is the game that was used in the development  
20 -- Intellect 4-type computer system operated it?

21 A Yes it was.

22 Q --of an electronic pinball game?

23 A Yes.

24 Q And this is the game that you played having an Intellect  
25 Intellect 4 connected to it?

26 MR. WELSH: Objection to the question as leading.

27 THE WITNESS: Well, Ramtek built three of these pinball  
28 machines. We had a white one, a yellow one or gold one, and I



1 can't remember what the color of the third one was. The only  
2 one we ever totally completed was the gold one or yellow one.  
3 The other two we did various development work on like different  
4 types of scoring, using either drums or light emitting diodes.

5 We did some playfield playing on the other ones just  
6 to R and D, but the one we did complete and which became a  
7 workable playable pinball machine was the one that is in these  
8 pictures.

9 MR. HARDING: Q Do you recall whether the Intellect 4  
10 was ever connected to operate the gold colored Lucky Dice  
11 machine depicted in these Exhibits?

12 THE WITNESS: A Yes, it was.

13 Q And did you play the gold colored game depicted in  
14 these Exhibits?

15 A Yes.

16 Q And when you played it, did it have the Intellect 4  
17 connected to it?

18 A Yes, I did -- yes, it did.

19 Q Did the development ever reach a stage when other than  
20 an Intellect 4-type computer system operated it?

21 A Well, you know, I guess I'm a little confused over  
22 the discussion between Intellect 4 with and without it because,  
23 you know, all you really do when you remove the Intellect 4 is  
24 just put the logic in its own card cage and out of the Intellect  
25 4 box, and yes, we did do that.

26 Ramtek -- we first did it inside the Intellect 4 box  
27 and secondly we did the logic outside of the Intellect 4 box  
28 without the Intellect and the circuit.

1 (Whereupon, there was an off the record discussion between  
2 Mr. Harding and Mr. Rifkin at this time.)

3 MR. HARDING: Let's take a five minute break.

4 (Whereupon, there was a break at this time.)

5 MR. HARDING: Read the last question and answer.

6 (Whereupon, the record was read by the Reporter at this  
7 time.)

8 MR. HARDING: Q When the logic was put in its own card  
9 cage, where was the location of the card cage with respect to  
10 the playfield?

11 THE WITNESS: A It always sat external to the unit  
12 itself. It never was installed inside of the case or the  
13 cabinet.

14 Q Now, I probably should clarify that a little bit in  
15 the sense of I don't remember it ever being installed. I  
16 mean, you know, I -- it could have been at one time or another,  
17 but I don't remember it ever being installed inside the unit.

18 Q Are you aware of any reason why it was not?

19 A Mostly because in the early stages as we wanted to  
20 show it to people and, you know, if people wanted to see the  
21 logic, we had to continually be opening the unit up, so we  
22 left it external, and the boards themselves were, you know --  
23 it was something that we were always improving and monkeying  
24 with, so that was probably the other reason it was never  
25 inserted inside.

26 Q Did you play the game when it had the logic in the  
27 card cage?

28 A Yes.

1 Q Did you form any conclusions as to how satisfactorily  
2 the game played at that time?

3 A I should disqualify myself as an expert, as a pinball  
4 machine expert, before I say how satisfactorily. I am not a  
5 pinball machine expert.

6 The game, as far as I know and as far as my playing it  
7 goes, it was an extremely fun game to play. We had contests  
8 at Ramtek that ran sometimes well into the evening, like 10:00,  
9 11 o'clock at night with, I think, everybody in the company  
10 involved in the contest; high score contest. The game played  
11 very well, and everybody seemed to like it.

12 Q Was that your opinion also?

13 A Yes, it was.

14 Q Can you name -- can you identify any individuals who  
15 you recall seeing playing the game when the logic was in the  
16 card cage?

17 A An individual at Ramtek, I would say everybody who  
18 was an employee at that time had some familiarization and  
19 played the game with the logic sitting external in the final  
20 version of it.

21 I mean, every technician, every engineer had some  
22 opportunity to play that game. Outsiders or outside of the  
23 company -- we had a number of our distributors, people we  
24 distributed video games to, stopped by and played it. We had  
25 from -- just guys I can remember, and they don't always visit  
26 me, was from Activity Amusements in Philadelphia, which would  
27 be Joe Ash, and his son, they came out once or twice and played  
28 it. Our distributors from San Francisco, and we use both Rowe

1 International and the Bally distributor -- I can't think --  
2 Advance Automatic, both the managers and some of their sales  
3 people came down and played it.

4 We had local distributors here, primarily operators,  
5 Fred Gillman -- it's hard really to remember all the people  
6 because we were fairly open about the fact that we were  
7 developing this product and that -- you know, we didn't treat  
8 it as a large secret, so we had an awful lot of people come in  
9 and play the game.

10 Q What time frame are we talking about now?

11 A That would be after January of 1975 when we had the  
12 thing working at that point.

13 Q And before any other date?

14 A It was probably before we went to the M.O.A. Show in  
15 October of '75, which was the first time we officially took it  
16 anywhere to show to people. We moved it back there for a trade  
17 show. We did not show it on the floor, we showed it in our  
18 booth at the time.

19 Q You mentioned programming of the game. Was there any  
20 individual retained by Ramtek to program the game?

21 A A firm here, that I can't remember the name of the  
22 firm, that does primarily microprocessor programming and the  
23 guy we hired from that company was called Ray Holt, who worked  
24 with us from probably September, maybe a little later, but  
25 around that time, September through the first of the year.  
26 He was a consultant on retainer or -- being paid by Ramtek to  
27 work with Hal Ivy on the software.

28 Q Did Ramtek ever pay him for his work?

1 A I'm sure we did. I don't think he would have stayed  
2 working for us if we hadn't paid him. At that time, we were  
3 probably struggling, financially, and he may have to have been  
4 asking for his money, but I'm sure we paid him.

5 Q You mentioned the M.O.A. Show. What year was that  
6 M.O.A. Show?

7 A It was October -- well, the M.O.A. Show is always  
8 October, November, and it would have been '75.

9 Q Now, did you display the Lucky Dice pinball game at  
10 the '75 M.O.A. Show?

11 A No. We showed it in our room at the Blackstone Hotel.

12 Q Who did you show it to?

13 A Anybody who came to our hospitality suite. We  
14 actually had a hospitality suite there at the Blackstone and  
15 probably were visited by somewhere between seventy-five and  
16 a hundred and twenty-five people; most all of our distributors  
17 that we had at that time, probably forty distributors, ten or  
18 fifteen foreign distributors, a number of competitors --  
19 friendly competitors.

20 At that point, you know, it may sound silly that we  
21 were showing it, but we decided that we could not afford to  
22 go into production on the product, so --

23 Q I'm sorry?

24 MR. WELSH: Would you let the witness finish his answer.

25 THE WITNESS: Okay, so in October of 1975 we had done --  
26 we did a prototype, did all the costing. We had done all the  
27 cost analysis and we just didn't have the money to go into  
28 production. Ramtek did not have the money, so we were very

open about showing it to everybody.

MR. HARDING: I'll go back to that subject in a minute.

Q Can you identify the competitors that you mentioned who saw the game at the 1975 M.O.A. suite?

THE WITNESS: A Well, we had -- the Gottliebs were there.

Q Who are the Gottliebs?

A The manufacturers of pinball machines in Chicago, the Gottlieb family, the youngest of which is -- I can't think of his first name. The youngest son of the Gottliebs came to the suite to see the pinball machine.

Joe Robbins, our distributor from Bally, a Bally employee, and also at the time I think he was on the Bally Board of Directors, he came and saw it. A couple people from Atari, which I wouldn't know their names right now, stopped by to see it at the suite.

Q Do you recall anybody else from Bally?

A Well, it's hard to say because our dealings with Bally typically were with Midway Manufacturing and not with the parent company or Bally Manufacturing, so there may have been other people in the suite from Midway whom we don't associate with Bally. I mean, obviously they are, but mentally you don't, so I'm not sure who else was there.

Q Can you identify anybody from Midway?

A I could be mistaken, but I think -- let me qualify that I think Hank Ross from Midway may have come up and saw it at that time, which would have been October of '75.

Q Do you recall whether any of these individuals



1 actually played the game?

2 A I think Joe Robbins did.

3 Q Did Mr. Ross?

4 A Not that I remember.

5 Q Do you recall whether either Mr. Robbins or Mr. Ross  
6 visually inspected the electronic part of the game?

7 A No, I don't remember.

8 MR. HARDING: I hand you three pages of document and ask  
9 if you can identify that document.

10 MR. WELSH: Does that have any identification number?

11 MR. HARDING: Not yet.

12 I am informed that you do have a copy of it.

13 THE WITNESS: I probably -- I don't remember the front  
14 two, which would be bills of lading that I didn't have anything  
15 to do with. The Future Packaging, I seem to remember this;  
16 paying to have it packaged to have it shipped, but the documents,  
17 I think, are when we shipped the electronic pinball machine  
18 back to the 1975 M.O.A. Show.

19 MR. HARDING: Q You referred to the third document as  
20 remembering it. It is dated 10/21/75, and I ask if again you  
21 can tell me what that document is?

22 THE WITNESS: A Oh, well, the -- this was when we  
23 shipped our products back to the M.O.A. Show. The M.O.A.  
24 Show being the only major trade show that the amusement  
25 business has. It really stands for Music Operators of  
26 America, and it's always held in Chicago, and we ship three  
27 or four items to that show every year while we are in the  
28 business, and this year we shipped a handball game, a trivia

1 game and a pinball game to the show.

2 MR. KATZ: Could I have that last answer back, please.

3 (Whereupon, the record was read by the Reporter at this  
4 time.)

5 MR. HARDING: I'd like to mark that document as GD300.  
6 I have no idea where we are in the sequence.

7 MR. WELSH: Which document?

8 MR. HARDING: The one that the witness has just testified  
9 about entitled "Future Packaging."

10 (Whereupon, a one-page document, an  
11 invoice on the letterhead of Future  
12 Packaging, dated 10-21-75 was marked  
Defendant's Exhibit GD300.)

13 MR. HARDING: Q Now, when you commenced the pinball  
14 program, pinball development in 1974, who had final responsi-  
15 bility for the decision to commence the program?

16 THE WITNESS: A I did.

17 Q Did you have any intention as of that time on  
18 commencing the program?

19 A I guess you have to -- I don't quite understand.

20 Q Let me rephrase the question.

21 Why did you commence the program in 1974?

22 A Oh, primarily for the -- not primarily, the only  
23 reason we commenced it was to go into the business of building  
24 pinball machines and to make money in the process.

25 Q All right, and who had final responsibility in the  
26 middle of the program to continue the program?

27 A I did.

28 Q During the time that various people that you have



1 identified earlier saw and played the game, and by the game,  
2 I am referring to the Lucky Dice, was there any intention as  
3 to why you allowed these people to see and play the game?

4 MR. WELSH: ... Objection to the question as indefinite  
5 because the time when he said he saw other people playing the  
6 game extended over a long period and it's indefinite as to  
7 any time at all.

8 MR. HARDING: Q Do you understand the time frame that  
9 you referred to when people came, saw and played the game  
10 that you have talked to -- talked about earlier?

11 THE WITNESS: A Well, realizing we are dealing with  
12 five, six years ago, I can probably narrow things down to,  
13 you know, plus or minus a couple of months on most -- when  
14 most people played the game.

15 Q Are we talking about when you said the end of December  
16 '74 to the M.O.A. Show in 1975; is that correct?

17 A Yes, that's correct.

18 Q During that time frame, did you have any reason for  
19 allowing people to see the game?

20 A Well, we went through various stages in this whole  
21 development cycle. When we started the project in April of  
22 '74 we had every intention of going into manufacturing and  
23 into production at Ramtek building and selling this game.

24 In late '74, particularly, you know, the country at  
25 that point and business had gone into a pretty deep recession  
26 and it was affecting Ramtek pretty deeply, and by early '75,  
27 particularly early -- I'll say March of '75 we had done a  
28 number of cost studies at that point on how much it was going

1 to cost us to go into production, what our building cost would  
2 be and just overall what the commitment that Ramtek would be  
3 making to go into production on that Lucky Dice machine or  
4 the pinball machine business, and it was going to cost us in  
5 excess of \$2,000,000 and we truly did not have the money at  
6 that point in time to do it, so starting from late March  
7 through April, somewhere in that area, we said, "Well, if we  
8 can't produce the product, what else can we do with it?"

9 And so it looked to us like a practical approach  
10 would be to license or sell the concept to a company -- whoever  
11 had the money to do it or was already in production or try to  
12 raise money from somebody to do it ourselves, you know; there  
13 were a number of options open to us. I might add none of  
14 which developed at that point in time; never did develop, but  
15 at least we treated them all a little bit separately.

16 We tried to find other manufacturers with money who  
17 might want to build it or license it. We tried to find  
18 financing, people to give us money to do it. Some of our  
19 approaches were, I thought -- maybe they were too far out, but  
20 we -- we effectively were saying to the pinball machine  
21 industry, "Now, you are going to go this way, going to go to  
22 electronic programmable pinball machines. You might find  
23 somebody to do the board for you so that you have a common  
24 capability," and we pitched that to -- I personally did to  
25 all three major manufacturers that they license or buy this  
26 programmable board from Ramtek. You know, I mentioned that  
27 to Gottlieb, I mentioned it to Williams and I mentioned it  
28 to Bally.

1 Q And what connection did this have with people seeing  
2 the game?

3 A Well, you know, it gets confusing for somebody in  
4 the electronics business to keep talking about the game,  
5 Lucky Dice, because the game was only number one of potentially  
6 two or three variations of that game. That was why we decided  
7 to go to a microprocessor game, so we could continue to build  
8 games without ever changing the logic. The logic would be  
9 universal for every game built. Only the software and then  
10 again only a small PROM or two would change from game to game.  
11 It seemed like a very logical approach to the business, and  
12 so we tried to sell that concept a number of different ways.  
13 I guess the point I was going -- trying to make is  
14 that halfway through April we were truly finally satisfied  
15 we never were going to have the money to build this ourselves,  
16 at least it didn't look like it, so we decided "Let's find  
17 another way to build it, you know, to get somebody to build  
18 it for us or fund it," and then what happened is we got  
19 extremely open with the project then. I mean, I think -- I'm  
20 not sure, but I wouldn't be surprised if we had the pinball  
21 machine sitting in our lobby for a period of time. We weren't  
22 doing anything secretive at this point any more.

23 Q And that's why people came into Ramtek; to see the  
24 game and play it?

25 A Yes, and there was some people earlier than that that  
26 we had selectively brought in to look at it. That would be in  
27 the -- oh, February, March, April time period, along those  
28 lines.

1 Q Can you identify those people?

2 A I can only identify two. I can identify from Gottlieb,  
3 their chief engineer, Jud Weinberg, and from Williams, again,  
4 one of their chief engineers, and I really can't remember his  
5 last name. It's Frank something, Irish -- Murphy, I think  
6 that's right.

7 I don't remember -- let's see, the problems we ran  
8 into again with visitors is at that time we were doing a lot  
9 of business with Midway Manufacturing and we had visitors and  
10 visiting on a steady basis; Hank Ross, Erv Wilverton -- or  
11 Icky Wilverton (phonetic), I'm sorry, and some of their  
12 engineering people were visiting us all the time, but from  
13 Bally themselves or the parent company, I truly don't remember  
14 anybody visiting us.

15 Q You mentioned cost studies, and I want to hand you  
16 various documents which --

17 First I want the Court Reporter to mark GD301-A  
18 through however many there are.

19 MR. WELSH: I would like to see them so I could  
20 correlate copies too as she does them, if she would pass them  
21 down to me, so I can compare them with mine.

22 MR. HARDING: Let's take a break.

23 (Whereupon, there was a break at this time.)

24 (Whereupon, the Reporter marked various documents at this  
25 time, GD301-A through GD301-R, which were at a later point in  
26 the deposition restapled and remarked by Mr. Harding as:)

27 (Whereupon, a one-page document on the  
28 letterhead of Ramtek to C.E. McEwan  
from T.J. Adams, dated August 2, 1974

1 was marked Defendant's Exhibit GD301-A.)

2 (Whereupon, a three-page document  
3 entitled "Space Planning," was marked  
4 Defendant's Exhibit GD301-B.)

5 (Whereupon, a 23-page document, the  
6 first page of which is entitled  
7 "Pinball Game, Costing Relationship,"  
8 dated 3-31-75 was marked Defendant's  
9 Exhibit GD301-C.)

10 (Whereupon, a four-page document, the  
11 first page of which is on the letter-  
12 head of Ramtek to C.E. McEwan from  
13 T.J. Adams, dated September 20, 1974  
14 was marked Defendant's Exhibit  
15 GD301-D.)

16 (Whereupon, a one-page document entitled  
17 "Pinball Game, Costing Relationship,"  
18 undated was marked Defendant's Exhibit  
19 GD301-E.)

20 (Whereupon, a one-page document, hand-  
21 written, entitled "Pinball, Cost  
22 Recap," undated was marked Defendant's  
23 Exhibit GD301-F.)

24 (Whereupon, a two-page document entitled  
25 "Pinball Financial Analysis," undated  
26 was marked Defendant's Exhibit  
27 GD301-G.)

28 (Whereupon, a two-page document, the  
first page of which is entitled  
"Pinball Capital Equipment Schedule,  
Background Notes," undated was marked  
Defendant's Exhibit GD301-H.)

(Whereupon, a two-page document, the  
first page of which is entitled  
"Pinball Cost of Sales, Background  
Notes," undated was marked Defendant's  
Exhibit GD301-I.)

(Whereupon, a four-page document, the  
first page of which is entitled  
"Pinball Cost of Production, Background  
Notes," undated was marked Defendant's  
Exhibit GD301-J.)

(Whereupon, a two-page document, the  
first page of which is entitled  
"Pinball Manpower and Labor Cost,

1 Background Notes," undated was marked  
2 Defendant's Exhibit GD301-K.)

3 (Whereupon, a two-page document, the  
4 first page of which is entitled  
5 "Pinball Development Expense, Back-  
6 ground Notes," undated was marked  
7 Defendant's Exhibit GD301-L.)

8 (Whereupon, a two-page document, the  
9 first page of which is entitled  
10 "Pinball Sales and Service Expense,  
11 Background Notes," undated was marked  
12 Defendant's Exhibit GD301-M.)

13 (Whereupon, a two-page document, the  
14 first page of which is entitled  
15 "Pinball Cash Flow Background and  
16 Notes," undated was marked Defendant's  
17 Exhibit GD301-N.)

18 (Whereupon, there was an off the record discussion at  
19 this time.)

20 MR. HARDING: Q Mr. McEwan, I'm handing you a single  
21 page document designated GD301-A and ask you if you can identify  
22 it?

23 MR. WELSH: Objection to the question as indefinite.  
24 Identify it as what; something he has seen before? I -- I  
25 will object to the question as lacking a foundation that he  
26 has seen the document.

27 MR. HARDING: Q I'll give you an instruction, Mr. Ewan.  
28 If you have not seen a document, then you can't identify it.  
I do not want speculation at any time during this deposition,  
and when I ask you if you can identify a document, that means  
from knowledge before this deposition that you have seen it.

Now, can you identify document GD301-A?

THE WITNESS: A Well, I guess --

MR. WELSH: If you recall.



1 I object until you ask him the foundation question  
2 as to whether he recognizes it as something he has seen before.

3 MR. HARDING: Mr. Welsh, I'm not going to get into this.  
4 Before you and Mr. Lynch got into it enough and we'll see the  
5 outcome of that at some future date, I feel sure.

6 Q Mr. McEwan, can you identify that document?

7 THE WITNESS: A Well, I have seen -- the problem I have  
8 is can identify this exact page, and the real facts are I have  
9 seen this information before and I think it's from my files,  
10 so I -- yes, I have seen this information before.

11 Q I notice that it's from Mr. Adams to C.E. McEwan. Do  
12 you know who C.E. McEwan is?

13 A Yes, that's me.

14 Q Okay. Now, I would like to hand you document GD301-B,  
15 which is a three-page document, the second page in the upper  
16 left-hand corner says, "One hundred units per day" and the  
17 third page begins "Development-engineering, drafting, et  
18 cetera, offices," and ask you if you can identify that docu-  
19 ment?

20 MR. WELSH: Objection to the question as lacking a  
21 foundation that he recalls ever seeing the document before,  
22 and further to the extent that it calls for him to analyze  
23 the document now and form an opinion as to what it is.

24 THE WITNESS: Can I have a question?

25 MR. HARDING: Yes.

26 Q Can you identify that document?

27 THE WITNESS: A Again, the same qualification, that I  
28 have seen this information before?

1 Q Do you recall having seen the -- that document before?

2 A Oh yes, yes, this was part of when we were studying  
3 building the -- going into production on the pinball machine,  
4 we created a number of documents exactly like this which are  
5 space studies, profit studies; various other things.

6 Q And in the lower left-hand corner of that document,  
7 GD301-B, is the initial "WHR" and a date of 9-13-74. Do you  
8 know whose initials "WHR" stands for?

9 A Yes, William Rombach. He was the Vice-President of  
10 manufacture during this time span at Ramtek.

11 Q Referring back to GD301-A, do you recall having ever  
12 seen that document before?

13 A Yes.

14 Q I hand you document GD301-C which is a 23-page docu-  
15 ment and ask if you can identify it?

16 MR. WELSH: Objection to the question as lacking in  
17 foundation, whether he recognizes it as something he has seen  
18 before.

19 Along with lacking that foundation, I object to the  
20 question as calling for hearsay.

21 MR. KATZ: Was this document formerly marked GD301-D  
22 through GD301-I or some other letter, and it's been changed  
23 since we originally had the copy -- or the original from which  
24 we marked our copies, because ours is a one-page document and  
25 this is a multi-page document.

26 MR. HARDING: I don't know how you marked your copies,  
27 Mr. Katz. You can conform them at the next break with the  
28 originals.



1 MR. WELSH: The numbers have been crossed out with --  
2 on the documents that you furnished us to compare with documents  
3 that we had been furnished before.

4 MR. RIFKIN: You, of course, are referring, Mr. Welsh,  
5 just to the Exhibit labels put on by the Court Reporter.

6 MR. WELSH: That's what I am referring to. They had  
7 numbers on them and we were trying to find our documents that  
8 correspond to them based on their numbering.

9 MR. HARDING: Q Sir, have you seen that document --  
10 before today?

11 MR. WELSH: The entire document is the question.

12 MR. HARDING: The entire document, GD301-C.

13 THE WITNESS: I believe so, yes.

14 MR. HARDING: Q What is it?

15 THE WITNESS: A It's something we do at Ramtek. It's  
16 really called a bill of materials where we assemble a complete  
17 unit from the ground up with all the time studies and cost  
18 studies before we come up with a cost to build.

19 Q Does that have anything to do with the Lucky Dice  
20 program that we have been discussing?

21 A Yes. This whole bill of materials stack here is all  
22 associated with the Lucky Dice game.

23 Q Do you know who prepared it?

24 A Yes. Again, this would be done by our manufacturing  
25 Vice-President, Bill Rombach.

26 Q Do you know approximately when he did it?

27 A It's dated here at the bottom 3-31-75 and that would  
28 be about the time that all of this information was available.

1        See, this has got all the final logic arrays and  
2 even ROM counts; everything that would not have been available  
3 prior to probably mid January of '75.

4        Q     Okay. I hand you a four-page document, the first  
5 page has the label GD301-D, and ask if you have seen that  
6 document before?

7        A     Yes, I have.

8        Q     Can you identify it, please?

9        A     Yes. This is a document that Thomas Adams, Vice-  
10 President of Finance at Ramtek, generated to me with all of  
11 the cost summary on the potential expenditures that Ramtek  
12 would have if we went into the pinball machine business.

13        MR. HARDING: Off the record. I don't see why  
14 (Whereupon, there was an off the record discussion at  
15 this time.)

16        MR. KATZ: On the record, could I take a look at that  
17 document, please?

18        This one is GD301-D; is that right?

19        MR. HARDING: That's right.

20        MR. KATZ: This was remarked from some other letter--

21        MR. WELSH: That it had before.

22        MR. KATZ: Now, the document that the witness was  
23 talking about before, that was GD301-C; is that right?

24        MR. HARDING: (Mr. Harding nods affirmatively.)

25        MR. KATZ: Now, was this document that is now GD301-D  
26 previously GD301-H that we just went through the process of  
27 marking?

28        MR. HARDING: Absolutely not, Mr. Katz. I have identified

1 the document on the record. If you want to have your turn,  
2 have it. Do not disrupt the present proceedings with the  
3 official documents which are stapled together and bear the  
4 designations --

5 MR. KATZ: All of them aren't stapled, and the Reporter  
6 did not sign there.

7 Did the Reporter mark this as GD301-H previously?  
8 (Whereupon, there was an off the record discussion at  
9 this time.)

10 MR. RIFKIN: Mr. Katz, you know I tried to conform my  
11 copies when you were taking a deposition and at your request  
12 I stopped doing this kind of time wasting thing, and I said  
13 I would agree to conform them at the break. I don't see why  
14 you won't accord Mr. Harding the same privilege here. This  
15 is just being impolite and wasting the witness's time.

16 MR. KATZ: I don't know what you are talking about. We  
17 have been trying -- we went through a break and we did try to  
18 conform them, and now the numbers have been designated  
19 differently and we are trying to follow the witness's testi-  
20 mony.

21 MR. HARDING: Off the record now.  
22 (Whereupon, there was an off the record discussion at  
23 this time.)

24 MR. HARDING: Now, to further identify GD301-D, the  
25 second page has Page 2 marked in the upper right-hand corner,  
26 and the third page has Page 3 in the upper right-hand corner  
27 and the fourth page has Page 4 in the upper right-hand corner.

28 Q Now, Mr. McEwan, I'm handing you documents designated

1 GD301-E, F and G, with "G" being a two-page document, the  
2 second page beginning "A deferment of development expenditure--,"  
3 GD301-H, which is a two-page document, the second page being a  
4 table entitled "Pinball Capital Equipment Schedule;" GD301-I  
5 which is a two-page document --

6 MR. WELSH: Let the record show that the -- that the  
7 staples are being placed on these documents by Mr. Harding as  
8 he is identifying the document as a two-page document.

9 MR. HARDING: --with the second page bearing the title  
10 "Pinball Cost of Sales." GD301-J, another two-page document,  
11 with -- I'm sorry, it is a four-page document --

12 MR. WELSH: Which, as were produced, were separated  
13 from each other and not connected.

14 MR. HARDING: --four-page document, the second page  
15 bearing in the upper line "3, Outside Services," and the third  
16 page being a document entitled "Pinball Purchase Material,"  
17 and the fourth page bearing a first line "Pinball, Page 1 of  
18 1," and the second line "Cost of Production."

19 MR. WELSH: Let the record show that those pages were  
20 just stapled together by Mr. Harding.

21 MR. HARDING: GD301-K, a two-page document with the  
22 second page bearing a first line of "Pinball," and the second  
23 line "Man Loan and Labor Cost," which I am now stapling  
24 together the two pages for convenience.

25 GD301-L, a two-page document with the second page  
26 bearing a first line "Pinball, Page 1 of 1," and the second  
27 line "Development Expense."

28 GD301-M, a two-page document with the second page

1 bearing the first line "Pinball, Page 1 of 1," and the second  
2 line "Sale and Service Expense," and GD301-N, a two-page  
3 document with the second page bearing a first line "Pinball,  
4 Page 1 of 1," and a second line "Cash Flow."

5 Q Now, Mr. McEwan, I would like you to review each of  
6 these documents separately and first identify whether you  
7 recall having seen the document before, and if so, then tell  
8 us what each is.

9 MR. WELSH: And when you say "each" -- having seen the  
10 document before, and there is a multi-page document, are you  
11 advising the witness to --

12 MR. HARDING: Look at each page.

13 MR. WELSH: Look at each page and identify each page  
14 separately or the entire document as having seen the document  
15 in that form before?

16 MR. HARDING: Well, we'll see how it goes. I want him to  
17 look at each page of each document and see whether he has seen  
18 each page of each document and then tell me what each page of  
19 each document is, if he can do so.

20 THE WITNESS: Starting all the way back with GD301-A,  
21 which we had previously identified --

22 MR. HARDING: No, fortunately you don't have to go back  
23 that far.

24 MR. KATZ: Here is --

25 MR. RIFKIN: I think we did "A," "B" and "C." I don't  
26 know if we did "D."

27 MR. KATZ: "A," "B" and "C."

28 (Whereupon, there was an off the record discussion at this

1 time.)

2 MR. HARDING: Q Would you please look at 301-D and  
3 tell me whether you have seen all four pages of that document  
4 before, and if so, whether you can identify them?

5 THE WITNESS: A Yes, I have seen this document before.

6 Q What is it?

7 A It would be -- it's a report to me from the Vice-  
8 President of Finance at Ramtek with the complete cost analysis  
9 on Ramtek's expenses if we went into the pinball machine  
10 business.

11 Q And you say pinball machine business, Are you referring  
12 to the Lucky Dice development program?

13 A I'm talking about that plus the continuation of that  
14 business.

15 Q Okay. Would you look at GD301-E, please?

16 A Okay. This, I don't recognize it, and I don't know  
17 if it ever came to me. It's part of the back up information  
18 that was used in generating the preceding stuff --

19 MR. WELSH: I object to the question as -- and to the  
20 answer as calling for speculation --

21 MR. RIFKIN: Mr. Welsh, he hadn't finished his answer.  
22 You interrupted him.

23 MR. WELSH: He said he didn't recognize it as something  
24 he had seen before.

25 THE WITNESS: This is -- to go through and finish answer-  
26 ing the question anyway, this is a piece of a package. The  
27 rest of the package is probably in here somewhere, but this is  
28 not all of it, and I haven't --



1 MR. HARDING: Q All right. How about 301-D (sic)?

2 THE WITNESS: A That was "E."

3 Q I'm sorry, that was -- did I say --

4 A "D" I had done. This if "F." Again, this is part--  
5 this document I have probably seen before because it was  
6 generated again by the financial officer and it was probably  
7 part of the back up information that was done for going into  
8 the pinball machine business.

9 Q Do you know who the finance officer was?

10 A It's not signed, but it is Tom Adams.

11 Q It bears the initials "WHR" --

12 A That's Bill Rombach, but the numbers in here were  
13 done by Adams.

14 Q Do you know approximately when this chart or this set  
15 of numbers was compiled?

16 A It says 4-14-75 and that's probably about the right  
17 time span.

18 Q Would you look at 301-G, please?

19 MR. WELSH: Before he answers, that is not a question  
20 yet and I would like to ask the witness to please wait until  
21 the question is asked before he answers, and I also would ask  
22 the witness to pay a little closer attention to the question.  
23 The last question was do you know when the document  
24 301-F was prepared and your answer was that it says April 14,  
25 1975, and I caution that the question was not answered as to  
26 whether you know or not, but it appears that you were relying  
27 on the information upon the document, and I ask the witness  
28 please to listen to the question and answer the question from

1 his knowledge of the facts, not from what the documents show,  
2 but from what your recollection of the facts is.

3 MR. HARDING: Q Okay. Mr. McEwan, I believe I asked  
4 you to take -- I gave you a running question to look at each  
5 document and each page of each document and tell me whether  
6 you had seen each page before, and if so, what it is, so please  
7 do continue to do that.

8 THE WITNESS: A Okay.

9 MR. WELSH: I object to the running-type of question  
10 because I don't think it is proper, and I -- therefore I  
11 enter an objection at this time.

12 MR. HARDING: We are only trying to expedite this and if  
13 Mr. Welsh wants to continue the deposition longer, then we  
14 will do that.

15 MR. WELSH: If it's expediting it at the cost of im-  
16 proper procedures, then I'm going to object to it.

17 MR. HARDING: Q Let's look at the two-page document,  
18 GD301-G. Have you seen that document before?

19 THE WITNESS: A Yes, I have.

20 Q What is it?

21 A It is a part of a cost analysis. It's really the  
22 background notes associated with some of the earlier documents  
23 where we were doing a study to figure out how much it would  
24 cost us to go into the pinball machine business.

25 Q Do you know approximately when it was prepared?

26 A Well, I would say between September 1974 and  
27 approximately May 1975.

28 Q Would you look at the two-page document designated

1 GD301-H?

2 A It's again exactly the same information as part of  
3 the notes and background information associated with the study.

4 Q So you have seen that document before?

5 MR. WELSH: Objection.

6 THE WITNESS: Yes, I have. It's part of the documents  
7 that Ramtek generated when they were contemplating entering  
8 the pinball business.

9 MR. HARDING: Q Would you look at GD301-I and tell me  
10 if you have seen this document?

11 THE WITNESS: A Yes. It was part of the same document  
12 that was generated when we contemplated entering the pinball  
13 machine business.

14 Q Would you look at document GD301-J, which is a ---  
15 MR. WELSH: I might note that the witness did not even  
16 examine the second page of that particular document, 301-I,  
17 before he answered the question or at any time during.

18 MR. HARDING: Q Mr. McEwan, would you look at the second  
19 page of document GD301-I and tell me if you have seen that  
20 document before?

21 THE WITNESS: A Yes, I have. It was part of the same  
22 information that was generated when we were contemplating  
23 entering the pinball machine business.

24 Q Will you please take a look at GD301-J which is a  
25 four-page document, look at each of the pages, and tell me  
26 whether you recognize those pages as something you have seen  
27 before?

28 A Yes. Again, this is part of the same information

1 that was generated as a report when Ramtek was contemplating  
2 entering the pinball machine business.

3 Q GD301-K, that is a two-page document. Have you seen  
4 either or both of those pages before?

5 A Yes. This is part of the same report.

6 Q Would you look at GD301-L, which is a two-page  
7 document, and tell me whether you recognize those pages?

8 A Yes. It was part of the same information that was  
9 generated to me when we were contemplating entering the pin-  
10 ball machine business.

11 Q Would you look at the two-page document designated  
12 GD301-M and tell me whether you recognize those pages as  
13 something you have seen before?

14 A Part of the same document that we generated when we  
15 were contemplating entering the pinball machine business.

16 Q Would you look at GD301-N, which is a two-page  
17 document, and tell me whether you recognize those pages as  
18 something you have seen before?

19 A Yes. Again, it was part of the same report that was  
20 generated when we were contemplating entering the pinball  
21 machine business.

22 Q Now, can you review the documents and tell -- and tell  
23 me the contents of the document that you have said is "the  
24 report that we generated," the last number of documents?  
25 I want you to --

26 MR. WELSH: I object to the question as indefinite as to  
27 what contents are and what documents you are referring to  
28 because there is no identification that any particular group

1 of documents constitutes the report.

2 MR. HARDING: Q Mr. McEwan, have you been discussing  
3 a report that Ramtek generated during the development of the  
4 Lucky Dice game?

5 THE WITNESS: A Yes, I have.

6 Q Have you identified any sections of that report in  
7 the documents that you have just reviewed?

8 A I believe all of the latter documents were part of  
9 that report.

10 Q Can you identify by number which documents now you  
11 are referring to as being part of that report?

12 A I think it started with document 301-C, which was an  
13 overview of the manufacturing of the game --

14 Q Okay. By this report, you are referring to 301-E

15 A --and -- (pause) -- it goes through starting again  
16 with "E" and goes through probably "N," which is the last one  
17 I identified.

18 Q And it's GD301-E through GD301-N?

19 A Yes.

20 Q Okay. Now, did Ramtek, to your knowledge, ever  
21 manufacture and sell electronic pinball games?

22 A We built a prototype. We never did go into full-scale  
23 manufacture.

24 Q Was there a reason that you did not go into full-scale  
25 manufacturing?

26 A Yes.

27 Q What was that reason?

28 A We didn't have the money. We could not afford it. As

1 a business decision, it was too expensive of a decision to go  
2 into that business.

3 Q Did you go into any other business?

4 A Well, during this time we continued to build arcade  
5 games, video games, and we continued to build our graphic  
6 displays that we presently still build.

7 The pinball machine would have been about -- I think  
8 we ended up saying somewhere over two million dollars worth  
9 of increased expenses that Ramtek was not in a position to  
10 commit to at this time. What this report is, that I was  
11 referring to, is really the background information on making  
12 that decision that we did not have enough money to enter into  
13 that business.

14 Q And by this report, you are referring to GD301-E  
15 through "N"?

16 A Yes.

17 Q And GD301-C?

18 A Yes.

19 Q Did the manufacturing of an electronic pinball game  
20 have to do -- have anything to do with the success of your  
21 video game business?

22 A Well, in the spring of 1974 Ramtek was being fairly  
23 successful in the video game business and being fairly profit-  
24 able with it. We did run into some problems in the video  
25 game business in late '74 or in '75, which basically  
26 eliminated a lot of the profits that Ramtek had contemplated  
27 and which was part of the reasoning for us going into the  
28 pinball machine business.



1 Basically we -- a couple of our games didn't work  
2 very well and we ended up having to retrofit and it was fairly  
3 expensive.

4 Q You say a couple of games. Were those a couple of  
5 video games?

6 A Yes. Basically it was a game called Baseball in late  
7 '74, early '75 that forced us into a major retrofit on that  
8 game. We built 2,000 of them and the first 1500 didn't work.

9 Q With the profits that you had anticipated from the  
10 video games, did you have any plan?

11 MR. WELSH: Objection.

12 MR. HARDING: Q Did you have any plan as to the dispo-  
13 sition of those profits?

14 MR. WELSH: Objection to the question as lacking in  
15 foundation or any basis of the testimony of anticipated  
16 profits.

17 MR. HARDING: Q Mr. McEwan, I think you testified that  
18 you anticipated profits from the video games; is that  
19 correct?

20 THE WITNESS: A Yes.

21 Q And did you have any plans as to the disposition of  
22 those profits relative to the pinball program?

23 A It had been contemplated that we would get into the  
24 pinball machine business at Ramtek using the profits from the  
25 video game business.

26 Q Did those profits materialize?

27 A No. The game we built in 1974, really in heavy pro-  
28 duction in early 1975, was a game called Baseball that we sold

1 for -- I think the price was less than a thousand dollars,  
2 \$975, and had a profit margin of about forty percent, which  
3 would have gave us nice profits during 1975.

4 The game had to be retrofited to the tune of between  
5 two and three hundred dollars a unit, which we did at our  
6 expense, which ate all of the profits up from that particular  
7 game which we delivered over two thousand of them, so we ended  
8 up breaking even or losing money on that particular project,  
9 that video game.

10 Q Do you recall the amount of expense incurred by Ramtek  
11 in developing the Lucky Dice pinball game?

12 A No, I don't. I don't really -- other than just  
13 speculation, I couldn't give you an exact number.

14 Q Can you give me a ball park figure without specula-  
15 tion or a range of values?

16 MR. WELSH: I object to the question. The witness has  
17 already said he could not give you a figure without speculating.

18 MR. HARDING: He said an exact figure, Mr. Welsh. Now,  
19 I'm not asking for an exact figure. I'm asking for a range of  
20 figures without speculation.

21 THE WITNESS: Well, do you want me to answer?

22 MR. HARDING: Yes.

23 THE WITNESS: We had three or four people for one year  
24 plus a few consultants and some soft tooling, and three or  
25 four people at our expense and overhead level typically runs  
26 between a hundred and a hundred and fifty thousand dollars a  
27 year. We worked on the project for almost a year exactly --  
28 a little over, maybe, and I would contemplate that we spent

1 between one hundred and fifty and two hundred and twenty-five  
2 thousand dollars on the project.

3 MR. WELSH: Could I have that answer back, please.

4 THE WITNESS: We spent --

5 MR. WELSH: I'm sorry, from the Reporter.

6 (Whereupon, the record was read by the Reporter at this  
7 time.)

8 MR. HARDING: Q Are you familiar with the record  
9 keeping practices, if there are any such practices here at  
10 Ramtek?

11 THE WITNESS: A Fairly familiar, yes.

12 Q Is there a practice with respect to keeping -- strike  
13 that.

14 Was there a practice with respect to keeping the  
15 documents that we have just reviewed in connection with the  
16 electronic pinball game effort?

17 A Well, anything that is ever designed or turned into  
18 a bill of materials at Ramtek, the documentation is still  
19 within the company, and if it isn't here, it's been microfilmed  
20 and it's stored elsewhere, and a good percentage of this is  
21 done -- as part of that is part of this information I looked  
22 at. The rest of the letters back and forth and the records  
23 are kept primarily in my office by my secretary.

24 Q Were these documents kept according to the -- that  
25 practice?

26 A All of the letters and summations were stored in my  
27 files, yes. Some of the bill of materials may have come out  
28 of document control.

1 Q Do you know of any practice at Ramtek as to the dating  
2 of documents with respect to the time that the documents are  
3 generated?

4 A Well, document control -- they're dated absolutely  
5 when it's stored into the master file system.

6 The office stuff stored in my office typically is  
7 dated as it comes in because it usually comes with a cover  
8 letter.

9 Q With respect to dates on documents which were --  
10 strike that.

11 Does Ramtek have any practice as to instructing the  
12 creators of documents when they place dates on documents to  
13 place the dates on around the time that they are created?

14 A We don't see any reason to date them other than  
15 accurately.

16 Q Okay. Do you personally have any financial interest  
17 in -- strike that.

18 Are you aware that there is a litigation pending in  
19 Chicago between Bally Manufacturing Company and D. Gottlieb &  
20 Company and Williams Electronics, Game Plan and Rockwell  
21 International?

22 A Yes, I'm aware that there is a legal action underway.

23 Q Do you have any -- personally any interest in the  
24 outcome of that litigation?

25 A Absolutely none.

26 Q As President of Ramtek, are you aware of whether  
27 Ramtek has any personal interest in the outcome of that  
28 litigation?

1 A I am aware that Ramtek has no gains or losses  
2 associated with it.

3 MR. HARDING: Okay. Now, let's take a two minute break.

4 (Whereupon, there was a short break at this time.)

5 MR. HARDING: Q Do you know who, if anybody, retrieved  
6 documents GD301 from the Ramtek files?

7 THE WITNESS: A I would say Wanda Lewis probably was  
8 responsible for gathering all of that information.

9 Q Who gave her, if you know, the instruction to gather  
10 --

11 A I probably did.

12 Q --the information?

13 A I think I did.

14 Q Does Wanda Lewis have any reason to understand the  
15 filing system of Ramtek?

16 MR. WELSH: Objection to the question. It calls for him  
17 to know whether she had a reason or not. It's hearsay and  
18 completely improper.

19 MR. HARDING: Q By virtue of her position at Ramtek,  
20 whatever it may be --

21 THE WITNESS: A Well, you say does she have -- Wanda  
22 Lewis is a secretary to myself and Mr. Adams, the financial  
23 officer, and so anything that we have in our offices she is  
24 responsible for filing and maintaining some semblance of  
25 recovering that information, so yes, she is in charge of it.

26 Q Okay. Now, you indicated that due to a lack of  
27 profits you decided -- Ramtek decided not to manufacture the  
28 production of the Lucky Dice-type game; is that correct?

1 A That's true.

2 Q Were there any other avenues explored towards obtain-  
3 ing revenue for electronic pinball at Ramtek?

4 A Well, as I said earlier, we knew that it was a  
5 pretty expensive proposition for Ramtek right from the  
6 beginning and probably somewhat marginal whether we could  
7 afford to truly go into full-blown production, so we explored,  
8 in late '74 and probably the whole year of 1975, other avenues  
9 of bringing this product or this type of product to market.  
10 With that, we offered to sell the logic, we offered to license  
11 -- let's see -- we are not a strong patent company. I mean,  
12 we patent very little at Ramtek, so our approach has always  
13 been to design and develop trade secrets internally -- our own  
14 development, and then try to sell the logic.

15 You know, we built a number of games for other  
16 companies that all we did and our only profit was the fact that  
17 we built them, checked them out and shipped them the boards  
18 and they inserted them in their game and sold it as a product  
19 with their name on it.

20 Q Did you attempt to either sell the logic or to license  
21 the electronic pinball design of Ramtek's?

22 A Yes, I did.

23 Q Can you explain your efforts there?

24 A Well, we tried to sell -- as I told you, we tried it  
25 with all three major manufacturers to get them interested in --  
26 our goal at that point was to produce that logic board in high  
27 quantities which we could afford to do that, was one thing we  
28 could fund, and then they would build their pinball machine



1 based on our logic board or our design.

2 Q And who were the companies you contacted?

3 A We talked to Williams, we talked to Gottlieb and we  
4 talked to Bally.

5 Q Do you recall any meetings specifically with Bally  
6 representatives concerning this subject?

7 A Well, I called up, and it was in '74, and the exact  
8 date was in late '74, and requested through -- my friend at  
9 Midway asked if I could potentially get an audience with Bally  
10 and talk about two things.

11 One, I wanted to talk about if they were interested  
12 in our solid state pinball machine, and if they were interested  
13 in either investing or potentially buying Ramtek as a company.

14 Q All right. I want to hand you a two-page document  
15 bearing the date October 28, 1974, the second page being a --  
16 the second page bearing Page 2 in the upper right-hand corner,  
17 and ask you if you can identify that document as something you  
18 have seen before?

19 A Yes.

20 Q What is it?

21 A It's a document that I sent to Bill O'Donald at Bally  
22 in late 1974, October 28th, 1974.

23 Q Did it have anything to do with the licensing or the  
24 selling of the logic that you have just discussed, and that  
25 is with respect to the solid state pinball program at Ramtek?

26 A Yes, it did.

27 Q Can you explain that -- the relationship?

28 A Well, I had planned a visit to Bally in early October

1 and the discussion of both some potential investment in Ramtek  
2 or even an outright buying of Ramtek, and the -- or some,  
3 you know, association with the electronic pinball machine.

4 Q Do you recall who attended the meeting?

5 A Well, it seems to me like I had contacted Hank Ross  
6 at Midway and asked him to set the meeting up for me, which he  
7 did. He did not have any association with the meeting at all.  
8 He picked me up at the airport and drove me over to Bally.

9 I think at the meeting Joe Robbins, which is -- at  
10 that time was the general manager of the Bally distributor in  
11 Chicago, he was also on the Board of Directors, I believe, of  
12 Bally, and I think his other job at Bally was -- was new  
13 business or acquisitions, and nobody ever really defined that  
14 to me, but I think that was kind of hinted to.

15 There was a financial officer, whom I don't remember  
16 his name. There was one or two people from the technical side;  
17 engineers.

18 Q Do you recall the entities of these engineers?

19 A No, I don't.

20 Q Did they work for Bally or --

21 A They were from Bally, from their pinball machine  
22 operation.

23 To set up the meeting, one of the things I told Hank  
24 Ross was that we had come a long ways in developing a micro-  
25 processor controlled pinball machine which, I think, was what  
26 triggered the real interest in the discussion at Bally.

27 Q Whose interest in the discussion at Bally?

28 A Maybe the whole group, you know, from Bill O'Donald

1 on down. Bill O'Donald only stayed in the meeting the first  
2 two -- maybe three minutes and then turned it over to the  
3 financial guy, and I say financial guy, and it could have been  
4 the guy who worked for Bally who was there -- came from  
5 Merrill Lynch or some place. He was an MBA-type out of the  
6 stock market who had something to do with their public  
7 offering, and he was very attune to electronics because almost  
8 the whole discussion was centered around our use of the micro-  
9 processor and why we chose the Intel four-bit chip versus the  
10 eight-bit chip to develop the product.

11 Q Do you recall whether the Bally engineers were either  
12 Mr. Frank Bracha or Mr. Englehardt?

13 A No, I can't remember who they were.

14 Q Did Bally ever express a conclusion as to the outcome  
15 of this meeting?

16 A Say that again?

17 Q Did Bally ever relate to you its conclusion as to the  
18 outcome of this meeting?

19 A Oh, I got a call from Hank -- sorry, from Joe Robbins  
20 two or three different times associated with -- I sent some  
21 information back to him. Basically it was Ramtek's operating  
22 plan, and we talked a couple of different times about, you  
23 know, what kind of financing we needed and various things  
24 like that.

25 There was never anything official transmitted from  
26 the other direction to Ramtek. It was all phone calls from  
27 almost exclusively Joe Robbins associated with, one, either  
28 the electronic pinball machine or two, the investment in

1 Ramtek.

2 Q After the 1975 M.O.A. Show, did Ramtek continue to  
3 display the Lucky Dice machine?

4 A At our facility, yes.

5 Q Was there any reason for your continuing to display  
6 it?

7 A Oh, I guess maybe we still, you know, contemplated  
8 maybe somebody buying it from us or -- at least buying the  
9 logic design, yes.

10 MR. HARDING: Thank you.

11 (Whereupon, there was an off the record discussion between  
12 Mr. Harding and Mr. Rifkin at this time.)

13 MR. HARDING: That's all the questions I have.

14 MR. WELSH: Why don't we break for lunch because I  
15 would like to make sure that we have the documents correlated  
16 and -- let's see, it's 12:15.

17 MR. HARDING: Okay.

18 MR. RIFKIN: For the benefit of Mr. McEwan, Mr. Welsh,  
19 do you have a great deal of questions? I have none.

20 MR. WELSH: I will have as much as I consider  
21 necessary. I don't -- I haven't estimated how much it will be.

22 MR. HARDING: Before we go off the record, I do want to  
23 mark the two-page letter dated October 28th, 1974 as the next  
24 GD Exhibit which should be GD302.

25 (Whereupon, a two-page document, a letter  
26 on the letterhead of Ramtek to Mr.  
27 Bill O'Donald from Charles E. McEwan,  
dated October 28, 1974 was marked  
Defendant's Exhibit GD302.)

28 MR. RIFKIN: During the break I would ask that the Court

1 Reporter initial all the 301 Exhibits.

2 MR. HARDING: Fine.

3 MR. RIFKIN: All the Exhibits, 300, 301 and 302.

4 MR. WELSH: I suggest we resume at 2:00.

5 THE WITNESS: 2:00 is fine.

6 (Whereupon, at the hour of 12:20 P.M. the noon recess was  
7 taken and the deposition reconvened at 2 o'clock P.M.)

8 / / Q

9 / / A

10 / / Q

11 / / A

12 / / Q

13 / / A

14 / / Q

15 / / A

16 AFTERNOON SESSION

17 (Whereupon, the Reporter initials the Exhibits at this  
18 time.)

19 EXAMINATION BY MR. WELSH

20 MR. WELSH: Q Referring back to the time period 1973  
21 to 1976, when the business of Ramtek was -- two businesses;  
22 that is, graphic displays and electronic games, approximately  
23 what percentage of the business of the company was graphic  
24 displays?

25 THE WITNESS: A In -- I'll give you our sales numbers  
26 from 1973. Our fiscal year is June 30 -- well, June 30. In  
27 1972 we did \$98,000 worth of business. That was nine months of  
28 a whole year. We subbed it out in June, and we did about a

1 hundred thousand dollars, all graphics. We had not entered  
2 the game business. In June of 1973 we had done close to  
3 \$2,000,000 in business; half a million was graphics and 1.5  
4 million was games.

5 In 1974 --

6 Q Excuse me, a million -- two million?

7 A Two million total.

8 Q Graphics was 1. --

9 A No, games, 1.5 million.

10 Q Oh.

11 A Games were bigger than graphics.

12 Q Okay.

13 A We did 4.2 million in June -- by June of '74. About  
14 2.2 million was games and the remaining 2 million or a little  
15 under 2 million was graphics.

16 In '75 we did six million; four million in games and  
17 two million in graphics.

18 '76, we did about 6.4 million -- no, 6.8 million, and  
19 it switched the other direction. We did about four million  
20 in graphics and two point something in games, and that ratio  
21 has held fairly constant up through '79.

22 Our sales in fiscal '78 -- fiscal '78 was 15 million  
23 total; 11 million in graphics and four million in games.

24 Q That was up through June of '79?

25 A Yes, June -- no, June of '78.

26 Q By June --

27 A By June of '79, we had decided to get out of the  
28 games business and we wrote off our games division.



1 Q Why did you write off your games division?

2 A Obviously we weren't making enough money on it or it  
3 was too much a risk for return, so we got out of it.

4 Q What was the profit on the games in the year ended  
5 June '73 out of the million and a half sales?

6 A Well, we didn't ever -- at that point we were a pri-  
7 vate company and we didn't really have to segment our sales  
8 by profit by product line, but our games sales were always  
9 more profitable than our graphic sales up until 1977.

10 Q That is up through June of '77?

11 A Yes.

12 Q When did you segment your profits by product?

13 A In September 1978 Ramtek made the decision to become  
14 a public company or to go public, which we did in December of  
15 1978, and in so doing we were forced by the SCC regulations to  
16 go back three years from that point and segment our sales and  
17 profits by product line.

18 Q So that was just about the time you were phasing out  
19 of the game business?

20 A Very similar, very close.

21 Q In the preceding year ending June '78, on the four  
22 million sales of games, what were the profits, approximately?

23 A I believe we lost some money, almost a push, I think--  
24 if you would like, I can get that information exactly rather  
25 than speculating.

26 Q Your best estimate is fine.

27 A Okay. We lost about a hundred thousand dollars.

28 Q And how about the period ending June '77? I don't

1 think we got the numbers for that year.

2 A Well, it would have been about twelve million total  
3 sales; about 3.5 million in games, the remainder in graphics,  
4 and games was marginally profitable and graphics was  
5 extremely profitable.

6 Q Out of the three and a half million, approximately  
7 what profit did you have?

8 A Oh, a hundred, a hundred and fifty thousand dollars.

9 Q And out of the two million plus in games in the year  
10 ending June '76, what was the profit?

11 A It was probably around a hundred thousand dollars.

12 Q And the year ending June '75, when you had four  
13 million in games?

14 A I think we actually lost money a little bit that  
15 year, an insignificant amount, seventy thousand dollars,  
16 bottom line lost.

17 Q In the year ending June '74, out of the 2.2 million  
18 in games, what was the profit?

19 A About two hundred and fifty thousand dollars.

20 Q Is it correct that you made your cross projections  
21 or estimates around April and May of '75 as to what it would  
22 cost to get into the pinball business?

23 A No, I don't think so. I think we started making them  
24 around September or October of '74.

25 Q When did you determine how much money would be needed  
26 to go into the pinball business? I thought you said as a  
27 result of your cost estimate in May or April of '75?

28 A I think -- well, there's two kinds of cost estimates,

1 you know. There's the finite one and then there is the  
2 so-called rough or preliminary. We started taking preliminary  
3 looks in September, October '74 and we got down to the finite  
4 numbers in March, April of '75.

5 Q By September or October of '74, what had been your  
6 experience with pinball manufacture to form a basis for making  
7 cost estimates?

8 MR. RIFKIN: Can I have that question back, please.

9 (Whereupon, the record was read by the Reporter at this  
10 time.)

11 THE WITNESS: Well, most -- most of what was going to  
12 be procured or used in the manufacture of pinball machines had  
13 been identified at that point. The components, electronics,  
14 the packaging, silk-screening, cabling, but identified with a  
15 plus or minus, maybe fifteen or twenty percent, so we started  
16 doing some -- which is just preliminary and rough, but gives  
17 you a pretty good close number to what kind of inventories you  
18 are going to have to build up and what kind of overall  
19 capitalization you are going to need to go into the business.

20 MR. WELSH: Q To go back to the profits, by the end  
21 of the fiscal year ending June '73 you said graphics were  
22 \$500,000 and games \$1,500,000. What was the profit on that  
23 \$1,500,000 in games?

24 THE WITNESS: A What year was this?

25 Q Ending June '73.

26 A Probably a hundred, a hundred and fifty thousand  
27 dollars.

28 Q Now, in September and October of '74, when you did --

1 did you refer to preliminary cost estimates; is that correct?

2 A Yes.

3 Q What did you estimate at that time would be needed to  
4 go into the pinball manufacture business?

5 A You know, basically I remember around two million  
6 dollars in capitalization.

7 Q And what was the number as a result of the finite  
8 study in March and April of '75?

9 A I can't exactly remember. I just -- my only comment  
10 would be probably had gone up significantly from our original  
11 estimate, but --

12 Q Are you saying more than \$2,000,000?

13 A Probably three to four million dollars by that time.

14 MR. HARDING: I want to point out to the witness that  
15 he is free to use the Exhibits if he feels a need to.

16 MR. WELSH: Q Now, is it correct that you testified  
17 that you had planned to get into the pinball business using  
18 profits from the video game business?

19 THE WITNESS: A Yes, that's true.

20 Q Was that your intention after the preliminary investi-  
21 gation in September and October of '74?

22 A Yes, it was.

23 Q And was it still your intention after the finite  
24 analysis of March and April of '75?

25 A Yes, it was.

26 Q Now, by September and October of '74 you had had a  
27 hundred thousand to a hundred and fifty thousand dollars profit  
28 by June '75 and another two hundred and fifty thousand dollars

1 profit in games by June '74.

2 Was that profit your basis for raising two million  
3 dollars?

4 A No. I think our profits by June of '75 is what we  
5 were hoping to be large enough to -- well, to fund a project  
6 like the pinball machine, either through additional equity or  
7 bank borrowing or some other method of raising the money.

8 Q But as of March or April you still had the intention  
9 to use the game profits to finance a pinball manufacturing?

10 A Probably -- March or April of '75?

11 Q Yes.

12 A I would say by that time we were probably having  
13 trouble, both financially and with profits from our game that  
14 we were building at that time which was Baseball.

15 Q So then -- it wasn't your intention at that time to  
16 use those profits to go into pinball manufacture?

17 A Well, I mean, the answer is probably March 1 it was,  
18 but by April 15th, we were getting nervous about whether we  
19 were going to get the profits.

20 Q Could you look at any of the documents and tell us  
21 what, as of March and April, you estimated to be the amount of  
22 capital needed to get into the pinball manufacturing business?

23 A Well, yes. On one page here, which has a number  
24 GD301-N --

25 Q Page 2 of that Exhibit?

26 A Page 2 of that Exhibit is "Cash Flow." That does not  
27 take into consideration all aspects of the business, but a  
28 good chunk of it. It shows our maximum negative cash flow

1 here would be \$900,000, \$903,000, on a pure, straight cash  
2 flow basis before we started turning around.

3 This particular document is not a summary, by the  
4 way. It's almost all manufacturing-type problems and I really  
5 don't see the summary for this particular overall -- I guess I  
6 have a summary right here from September of '74 --

7 Q I was interested in the March, April '75 --

8 A Fine.

9 Q --period.

10 A I have to go through and look at a few other things,  
11 but that primarily shows a maximum cash -- negative number  
12 cash flow would be nine hundred. It does not incorporate all  
13 of the additional problems. It does not incorporate interest  
14 for bank borrowing. It's missing some financial information,  
15 primarily manufacturing output.

16 Q But didn't you say this cost analysis represented by  
17 these documents such as 301 was used to determine what capital  
18 would be needed in March and April of '75?

19 A Yes.

20 Q Is it correct on direct examination you testified  
21 that there would be some two million dollars needed?

22 A I think I said to the best of my recollection it  
23 would take approximately two million dollars to get into the  
24 pinball machine business as our internal study provided.

25 Q So that was from your recollection and not from the  
26 documents?

27 A That's right.

28 Q Referring to those documents which you have before

1 you now, when was the last time you saw those before your  
2 deposition began this morning?

3 A I think when I was requested to produce them a year--  
4 year and a half ago. My secretary reproduced most of them and  
5 showed them to me before they were transmitted to the respec-  
6 tive law firms.

7 Q Did you compare them with any of the documents in  
8 your files at that time to determine whether that was a com-  
9 plete reproduction of -- of the documents used in that study  
10 at that time?

11 A No, I did not.

12 Q Have you done that since then?

13 A No, I have not.

14 Q Were these documents with the Exhibit numbers 301  
15 in the same condition when you saw them today as when you last  
16 saw them?

17 A I really can't say one way or another whether they  
18 were actually the same. There are -- they are documentation,  
19 but whether there is one missing or one added -- I could tell  
20 one added, but I couldn't tell if there is one missing.

21 Q Referring to document 301-C which represents many  
22 pages which have been secured together as one document, were  
23 all of those pages secured together when you last saw them  
24 prior to today?

25 MR. RIFKIN: Mr. Welsh, I object to that. You know, you  
26 noted on the record several times during the direct examina-  
27 tion that Mr. Harding was stapling them together and that's  
28 a waste of our time.



1 THE WITNESS: It's really hard to tell.

2 Q The flow chart on the front should reflect everything  
3 that is inside, but, you know, some of them are on two or  
4 three pages, so it's difficult to tell.

5 MR. WELSH: Q So you do not know; is that your  
6 answer?

7 THE WITNESS: A I don't know for sure.

8 Q But you do recall having seen these documents before?

9 A Yes.

10 Q What is the basis of your recollection?

11 A Well, I mean when you say recall having seen them,  
12 I saw them when my secretary sent them out, and going back to  
13 when they were generated in '74 and '75, they were overall  
14 part of a decision-making process of trying to decide whether  
15 the company was willing to commit to going into the mass  
16 production of pinball machines.

17 Q Did you see the documents that your secretary sent  
18 out?

19 A Yes, I did.

20 Q But you did not check them against your files to see  
21 if they were complete?

22 A No, I did not.

23 Q Do you recall any documents other than these that  
24 have been marked as Exhibits that were sent out by your  
25 secretary?

26 A No, I do not.

27 Q Did you remove any documents that she had collected  
28 before she sent the documents out?

1 A No, I did not.

2 Q Referring to Exhibit 3 -- GD302, which is a letter  
3 you sent to Mr. O'Donald of Bally dated October 28, 1974, at  
4 what stage was the pinball development at that time?

5 A Well, I think we had pretty much decided all of the  
6 technical aspects of what the pinball machine was going to be.  
7 We had picked a mechanical industrial design. Most all of the  
8 components were in procurement or had been procured, and we  
9 were in the three stage development cycle with mechanical,  
10 packaging and electronics going along simultaneously.

11 Q At what stage of completion was the electronics  
12 portion of the design --

13 A I think the design was totally done -- I think we  
14 were in the programming stage at that point.

15 Q Exhibit GD302 refers to a state-of-the-art design  
16 capability with both standard logic (TTL) and microprocessor  
17 abilities.

18 Was that a statement of capability or a statement of  
19 something that had been proven?

20 A I think we were discussing what Ramtek's capabilities  
21 were. At that time we developed products both in a graphics  
22 display area and the game business that were based on both  
23 TTL designs and/or microprocessor designs.

24 Q Where had you used microprocessing designs prior to  
25 that time?

26 A Prior to that time we had developed or were develop-  
27 ing a product called the MM80 which was a microprocessor  
28 emulator.

1 Q Was that a part of your graphics?

2 A Yes, it was.

3 Q Did that ever get into production?

4 A It got into production only as an internally used  
5 product. It was not -- well, it was sold on a limited basis  
6 to our customers. It was a piece of test gear.

7 Q When did that occur?

8 A Well, the development was probably in the -- talk  
9 stage in late '74 to full completed product in '75, shipments  
10 in late '75, '76.

11 Q So by October 28th, '74 there had not been -- that  
12 development had not proceeded beyond the talk stage; is that  
13 correct?

14 A That's true, yes.

15 There was another project that we did call an  
16 electronic scan converter where we took radar information and  
17 converted it to digital television information and we did that  
18 for the Navy under direct contract in early 1974. They used  
19 a microprocessor.

20 Q That was just a development?

21 A No, no, we turned out hardware for that project.

22 Q You completed the project?

23 A Yes, we did.

24 Q At your meeting at Bally in October 24, 1974 did you  
25 represent that you had a completed pinball game design?

26 A I believe I represented that we had a completed pin-  
27 ball machine design. I don't believe I stated it was all in  
28 working order.

1 Q Didn't you just offer the pinball possibility as a  
2 capability at that time; a representative of your capabilities?

3 A Not to my knowledge, no.

4 Q You offered it separately as a project that they  
5 should invest money in apart from purchase of your company?

6 A That's right.

7 Q Did Bally just turn down your proposals generally --

8 A No -- I'm sorry. Are you done?

9 Q Yes.

10 A No, they didn't turn them down.

11 I received a phone call from -- from Joe Robbins  
12 probably three months later saying that they would make a  
13 tentative offer for Ramtek of somewhere around a half a  
14 million dollars and they would like to negotiate on those --  
15 on that basis.

16 Q And what happened?

17 A I told them we weren't interested.

18 Q Did he just discuss the offer for your company?

19 A Yes, at that point, yes.

20 Q Was any reference made to any pinball project apart  
21 from that?

22 A No, he did not make any reference.

23 Q Did you ask him whether they were interested in the  
24 pinball project apart from the sale of the company?

25 A I did not.

26 Q Is it correct then that Bally made no response to any  
27 offer of a pinball project apart from buying the company?

28 A Not that I can remember.

1 Q Did you at some subsequent time attempt to interest  
2 Bally in investing money in the pinball project at Ramtek?

3 A There were probably a couple of other occasions after  
4 that where I had talked to either Joe Robbins or Hank Ross at  
5 Midway about that possibility.

6 Q And what was the result of those conversations?

7 A I never had any formal responses yes or no.

8 Q Did you have any informal responses?

9 A No, no responses.

10 I really shouldn't say that. It was either in late  
11 '75 or maybe somewhere -- somewhere around that time I was  
12 told that they had made some sort of an agreement with a design  
13 company in Wisconsin that was working on a solid state pinball  
14 machine for Bally.

15 Q Who told you that?

16 A I honestly can't remember.

17 Q How do you fix that date?

18 A Oh, it had something to do with the discussions with  
19 Joe Robbins and, you know, saying that their -- I couldn't  
20 believe that there wasn't a firmer interest in the fact that  
21 we had significant capability that Bally should be interested  
22 in, and, I think, somewhere along the line somebody said,  
23 "Well, it probably has to do with the fact that we have made  
24 a deal with some other company to provide us with this  
25 so-called electronic capability."

26 Q And when did that occur?

27 A It occurred in -- during, you know, late '74 or  
28 1975 and I can't remember exactly.

1 Q I believe you testified that in late '74 or in '75  
2 you tried with all three major manufacturers to get them  
3 interested in your logic board in high quantities.

4 Was that after the cost analysis was made in March  
5 and April?

6 A Well, I think, you know, Ramtek was moving in two  
7 directions during most of this -- these preliminary discussions,  
8 internally and externally.

9 One of them was we could -- if we could demonstrate  
10 how it would work, we could sell the idea. So, we felt we  
11 had to finish the project to demonstrate it.

12 Number two was that we could try to sell it knowing  
13 pretty much what the electronics was going to cost very early,  
14 and so we opened these preliminary discussions with all three  
15 manufacturers of any significance to try to sell them the logic  
16 or the concept of solid state microprocessor games.

17 Q And that was after the March, April --

18 A No, prior to that. It was done in '74, those  
19 preliminary discussions.

20 Q With all three manufacturers?

21 A Well, it could have trailed, you know. Some was  
22 November -- October -- it could have been January, but they  
23 scattered right through that quarter there.

24 We were trying fairly early into the project.

25 Q And is it your testimony that the design was completed  
26 late December or early January?

27 A No. I think the electronic design was completed in  
28 October. We didn't have the thing fully working until December,

1 but from an electronic design, it's possible to price it, so  
2 once you had a firm price, we could discuss with these people  
3 what the cost would be to build it.

4 Q So it was not -- it was in December that it became  
5 fully working?

6 A The whole system, the whole pinball machine, yes.  
7 If you go through our procurement cycles you will find all  
8 kinds of things that were being done on the electronics.

9 Q If the design were fully working in December of '74,  
10 is it correct that nothing else was done after that -- with  
11 respect to implementing it?

12 A No, I don't think that's true. I think we continued  
13 to improve the software features and a number of other things  
14 right up through -- probably May or June of '75 we were still  
15 working on that project.

16 Q Did the work stop at that time?

17 A Well, the work never really stopped on it up through  
18 the end of '75. What happened was the priority changed, you  
19 know, going from a priority one or a high priority in late  
20 '74 to a lesser priority in late '75. I mean, it was maybe  
21 item four on a list of ten of things to be worked on.

22 Q Was it number one priority in late '74?

23 A '74, early '75, yes.

24 Q And were all of the people assigned to that project  
25 working on it full-time during that period?

26 A No.

27 Q Who was working on it during that period?

28 A Well, Hal Ivy was the electronic designer being



1 assisted or directed by Gaymond Schultz. Ray Holt, an outside  
2 consultant, was doing the software programming. Bob Jonesi  
3 was doing the playfield. Roy Nesi was doing the industrial  
4 design and some of the playfield work, and Ken Acgard was  
5 doing the mechanical design and mechanical drawings for out-  
6 side procurement of mechanical parts.

7 Q There were probably an additional two or three  
8 draftsmen in our drafting department that did miscellaneous  
9 pieces of that machine; brackets and other things. There  
10 were a couple of technicians that did various parts of check-  
11 ing out -- typically, when a program or project goes from high  
12 priority to lower priority, it's usually the support functions  
13 that get harder to get and, I think, that's kind of what  
14 Ramtek did; left drafting, left technician support.

15 Q At what point in time did the pinball project become  
16 the high priority project?

17 A Okay. We finished the Baseball game for the M.O.A.  
18 Show in October -- September -- mid September, early October  
19 of 1974, so from that point it became a hundred percent  
20 priority during October, November, December, January of the  
21 Ramtek game group, and then we ran into a series of technical  
22 problems with the Baseball game, so, in particular, Hal Ivy,  
23 who did the logic design, was taken off of the pinball machine  
24 and went back into a redesign of the Baseball logic, was his  
25 priority, but Ken Acgard, Roy Nesi and Bob Jonesi continued  
26 to work on the pinball machine up through April, full-time.

27 Q So Ivy was taken off of the pinball project after  
28 January?

1 A Yes, part-time. I mean, he still worked on it part-  
2 time, but not full-time.

3 Q Approximately what part of his time?

4 A About ten, fifteen hours a week.

5 Q How many hours a week did he work?

6 A Seventy, eighty.

7 Q Was Holt working on the project when it had the high  
8 priority in October, November, December, January of '74 and  
9 '75?

10 A Best of my recollection, he worked for about six  
11 months full-time or high priority on that project. We brought  
12 in some other software people to work on it also from other  
13 parts of the company in the latter part of that project, which  
14 I'm not sure exactly when those dates were.

15 Q Was Holt brought in as soon as it was decided to  
16 build a microprocessor controlled system?

17 A No. I think he was brought in maybe a couple of  
18 months after the project started.

19 Q You said the project started back when Mr. Jones  
20 was hired?

21 A Well, when he was hired or when he started, I would  
22 say the project really kind of got off the ground in May,  
23 June of '74.

24 Q Had the decision as to what type of control system  
25 would be used been made at the time the project started?

26 A No.

27 Q So the project got started without knowing what kind  
28 of control system --

A Yes. We started out not knowing whether we were going to use a microprocessor or a TTL design when it started. The exact decision to go with the microprocessor seems to me had to have been made in July, early July.

Q There is no documentation for that?

A (Pause) I can't think of where there would be any. Potentially could be some documentation, but it would have to be buried somewhere, maybe in a procurement of a manual or something from Intel, but it wouldn't be anything quickly obvious because it was probably done at a meeting that we decided to go that way.

Q Was Mr. Metzler present at that time?

A No, not to my knowledge he wasn't.

Q Had he terminated his employment with the company?

A I believe so, by then he would have. I can't -- it would have been around the same time. We had two engineering groups working in the company kind of simultaneously; Gaymond Schultz running one and John Metzler running another, so even though he may have been there, he wouldn't have been involved in that decision.

Q What was the distinction between the two groups?

A I think at that point John Metzler was retired and Gaymond Schultz was still working. That was the main distinction between the two.

Q You mean Metzler wasn't working for the company any more?

A I think he was still employed, I just don't think he was doing anything at that point in time. He was a founder of

1 the company who was kind of still here, but not performing any  
2 functions.

3 Q Was Robert Jonesi hired for anything other than the  
4 pinball game design?

5 A Well, as I said before, Ramtek is not a mechanism  
6 company. We are not a mechanical design company, so we needed  
7 some mechanical design assistance and Bob Jonesi's background  
8 is mechanical design, so he was hired for -- basically as that  
9 function, a mechanical design group -- or person at Ramtek  
10 in conjunction with the pinball machine. Sort of a two-fold  
11 job.

12 Q You say he showed you drawings of plastic pinball  
13 games; is that correct?

14 A Yes, total artist's concepts, a series of them, about  
15 ten.

16 Q Did he show you those concepts after he started  
17 working at Ramtek?

18 A Yes.

19 Q And how long after?

20 A Within ten days after he became an employee. We had  
21 decided to pursue the pinball machine and he had -- you know,  
22 he had them at home and he went and got them and brought them  
23 back; some artist's concepts of different approaches to pinball  
24 machines.

25 Q This is exterior appearance of games?

26 A Yes.

27 Q Was the decision to embark on a pinball project made  
28 after you saw those concepts?

1 A No. It was done before then.

2 Q Did it have any formal launching or action that was  
3 taken in connection with it?

4 A Well, you know, yes, I would say we did -- probably  
5 had a series of one or two meetings at which the outcome of  
6 which was "Let's go, let's build it."

7 Q Was anybody given any specific responsibility in  
8 connection with it?

9 A I think the responsibility was pretty clear cut. I  
10 think the game play and mechanical playfield was to be designed  
11 by Bob Jonesi. The electronics was to be done by Hal Ivy with  
12 help from Gaymond Schultz, and the esthetics and mechanical,  
13 physical work or drawings and that would be done by Mr. Acgard  
14 and Mr. Nesi, and those are the same people that attended the  
15 meetings when we talked about building it.

16 Q And did that -- Mr. Metzler was not involved in that?

17 A I think he might have attended those meetings, yes.

18 Q But he wasn't given any responsibility?

19 A Not to my knowledge.

20 Q When did Mr. Metzler leave the employment of the  
21 company?

22 A Maybe August of '74, August, September, '74.

23 Q Did he have a title up until the time he left?

24 A Yes, Executive Vice-President.

25 Q Did his duties and responsibilities continue the  
26 same up until the time he left?

27 A Pretty much so, yes.

28 Q He had been in charge of electronic design of video

1 games?

2 A He had been in charge originally of design of all  
3 products the company manufactured.

4 Q And how about at the time he left?

5 A I would say that his capacity was probably somewhat  
6 diminished, but what his responsibilities were, I really don't  
7 remember. He still had the title Executive Vice-President,  
8 but he was not responsible for designing any of our graphic  
9 display products. It was not under him. He had a portion of  
10 manufacturing under him and he had some of the electronic  
11 game design under him.

12 Q Did he have anything to do with the design of the  
13 video game called Hockey?

14 A Yes. He designed the game called Hockey.

15 Q And how about the game called Soccer?

16 A He designed that game also.

17 Q Those were Ramtek video games; right?

18 A Yes.

19 Q How about the game Wipe Out?

20 A No, that was designed by Hal Ivy.

21 Q How about the game Clean Sweep?

22 A I'd like to make a correction. I believe John may  
23 have designed Wipe Out and Hal Ivy designed Clean Sweep. It's  
24 a little bit of a -- that was kind of a transition stage there  
25 and I'm not sure who was who.

26 Q Did you give a deposition in July of 1974 (sic) in  
27 an action involving Magnavox Corporation?

28 A Yes, I did.

Q I'm sorry, July of '75?

A Well, I remember giving a deposition for the Magnavox lawsuit, yes.

Q Do you recall testifying at that time that the game Wipe Out was manufactured and sold from the period of March '74 through May of '74?

MR. RIFKIN: Mr. Welsh, do you have a copy of that deposition transcript so the witness might review the portion that you are referring to?

MR. WELSH: I'm asking the witness if he recalls.

THE WITNESS: I remember us manufacturing that game and that would be around the right time, yes.

MR. WELSH: Q And was that not followed by the game Clean Sweep?

THE WITNESS: A Yes, it was.

Q And did not the manufacture of Wipe Out stop when you went into production of Clean Sweep?

A Not totally. There was an overlap.

Q Was it a relatively short time of overlap?

A Yes.

Q Prior to the time Clean Sweep was designed, was Mr. Metzler in charge of design of video games?

A Yes, he was.

Q And was he still in charge when Clean Sweep was designed?

A Yes, he was.

Q He continued in his appointment at the company then?

A Yes, he did.



1 Q Do you recall when you stopped manufacturing Clean  
2 Sweep?

3 A We went in and out of production on that game about  
4 three different times. It's hard actually to remember when  
5 we finally stopped building it.

6 Q Do you recall if it were after July of 1975 when you  
7 gave your deposition?

8 A I think we were still building it off and on.

9 Q And you don't recall when you stopped?

10 A I honestly don't recall.

11 Q I hand you what is a copy of what was marked as  
12 document GD180 in a previous Ramtek deposition.

13 (To Mr. Harding) Maybe you could give him the  
14 original Exhibit, Mr. Harding, please.

15 (Whereupon, Mr. Harding hands a document to the witness  
16 at this time.)

17 MR. WELSH: Q I ask you if you recognize that document?

18 THE WITNESS: A I recognize the document, yes.

19 Q What -- what do you recognize it to be?

20 A It's a standard form that we use at Ramtek for trade  
21 secrets where employees sign their rights to products developed  
22 at Ramtek to the company and it gives them the opportunity to  
23 list or to take exceptions to products that they have done  
24 other than at Ramtek.

25 Q Was this among the documents that were collected by  
26 your secretary?

27 A I believe so, yes.

28 Q And these were from your files?

1 A Yes.

2 Q That is an employee agreement signed by Ray Holt;  
3 is it not?

4 A Yes, it is.

5 Q And it bears the date September 27th, 1974; does it  
6 not?

7 A Yes.

8 Q Is that the date when he started working at Ramtek or  
9 for Ramtek?

10 A Somewhere around this time. It could have been some-  
11 what earlier. These don't always get signed immediately upon  
12 start of employment.

13 Q About that time, what determined when they did get  
14 signed?

15 A Well, if they were real employees, they got filled  
16 out and signed when they came to work, the day they started.  
17 Ray Holt was never an employee of Ramtek. He was a consultant.  
18 I have a suspicion that in this case he probably worked for  
19 some period of time before he signed it.

20 Q Were you involved in the hiring of Mr. Holt?

21 A Just -- just associated with it. I was not totally  
22 responsible.

23 Q In what way were you associated with it?

24 A Well, I knew we needed a programmer to do the software  
25 on that project. I preferred, personally, that we use one  
26 internally, one that worked for Ramtek. I was convinced that  
27 we didn't have enough people to do it, so I agreed to allow him  
28 to hire an outsider to do it.

1 Q At the time that he was hired, what was the status  
2 of the electronic portion of the design of the pinball game?

3 A I would strongly believe that the electronic design  
4 must have been fairly well completed or we wouldn't have hired  
5 a programmer to start programming it.

6 Q By completed, do you mean schematic circuit diagrams  
7 had been prepared?

8 A And the -- the basic conceptual architecture would  
9 have been done.

10 Q And also the schematic drawings would have been  
11 completed?

12 A It's hard to tell. They could have been, yes --  
13 should have been, probably.

14 Q Would the date of schematic drawings or dates  
15 accurately reflect when that portion of the work was done?

16 MR. HARDING: I'm going to object and request that Mr.  
17 Welsh lay a foundation that this witness actually knows when  
18 the specific work was done in connection with a given schematic  
19 drawing which has not been identified or produced for this  
20 witness to look at.

21 I also would point out that we do have a considerable  
22 set of documents that the witness can refer to any time he  
23 wishes to refer to them.

24 THE WITNESS: Well, okay. I don't mind answering the  
25 question. The fact is I would say the schematics were done  
26 at this point. They may not have been cleaned up and submitted  
27 to document control, which typically doesn't happen until  
28 something is ready for reproduction, but surely the architecture

and the concepts were completed when Ray Holt was hired.

MR. WELSH: Q Do you know whether the microprocessor system had been selected at that time?

THE WITNESS: A I really can't say.

Q Do you know if he, in fact, did begin programming around the time of this Exhibit 180, September 27, 1974?

A Ray Holt is the programmer and that's his field. I would say when he came to work for us that is what he was doing, to answer it with an answer to that question.

Q Do you know whether in that programming he was using the timeshare system?

A Yes, he was.

Q That was before the Intellect 4 system was acquired?

A That's right.

Q How long after that was the Intellect 4 system --

A I really think the Intellect was brought into the company in October. There's some -- I have seen some of the documentation here that showed when we purchased it and I don't think it's quite right. I think we had it on loan for some period of time before we bought it, so I think it was in-house for about a month before we purchased it.

Q When was the name Lucky Dice selected as the name for the game?

A I don't honestly remember.

Q Was that before or after the program began?

A I still don't remember.

Q When was the playfield decided upon for the game?

A All I can tell you is, you know, again, it's the same

1 three-month period. I don't remember the exact sequence of  
2 events.

3 Q Which three-month period?

4 A Which would have been October, November and December.

5 Q And that's '74?

6 A Yes.

7 Q When you first started your investigation of pinball,  
8 you stated that you thought the market for pinball games was  
9 approximately a hundred and fifty to two hundred million  
10 dollars a year; is that correct?

11 A That's right.

12 Q And that was in the year 1973?

13 A Yes, '73, '74.

14 Q You stated that you determined that number yourself?

15 A (Witness nods affirmatively.)

16 Q From -- would you tell us how you arrived at those  
17 -- at that number? -- electronic-mechanical, I'm sorry.

18 A Well, the two leading manufacturers of pinball  
19 machines was at that time Gottlieb, which had about forty per-  
20 cent of the business, Williams had about forty percent and  
21 Bally had about fifteen and Chicago Coin and all the others  
22 had about five.

23 That was Gottlieb sales, I think, in '73 was just under  
24 seventy million dollars. It's the only product they built was  
25 pinball machines, so by just adding up those percentages I  
26 came up to somewhere around a hundred and fifty million a year  
27 business.

28 Q And Gottlieb was --

1 A Under seventy million -- sixty-eight or something  
2 like that.

3 Q Where did you get those numbers; were they public?

4 A No, Gottlieb's weren't. I think I got them from  
5 one of their distributors.

6 Q And where did you get the percentages of the market  
7 held by each?

8 A Just hearsay, talking to people; distributors, know-  
9 ing, you know -- I knew somewhat what their production rates  
10 were.

11 Q Were any documents prepared in connection with your  
12 investigation at that time?

13 A No.

14 Q Is it correct that in connection with your decision  
15 to go into the manufacture of pinball games that Ramtek had  
16 experience with making old electro-magnetic (sic) games into  
17 electronic games -- electro-mechanical, I'm sorry.

18 A Well, I mean the concept of the game, yes, not the --  
19 when I said that before, what I was talking about is the idea  
20 of a game being changed from an electro-mechanical game to an  
21 electronic game.

22 In the case of the pinball, that was not the case.

23 That was -- you still needed the mechanical game along with  
24 the electronic portion of it.

25 Q So that up to that time it was merely the idea of an  
26 electro-mechanical game that had been used by Ramtek to make a  
27 completely electronic game?

28 A That's right.

1 Q Is it correct to say that you simulated the idea of  
2 an electro-mechanical game in the electronic game?

3 A Into an electronic video game.

4 Q That was true of the Soccer and Baseball games; was  
5 it not?

6 A Yes.

7 Q And did you also simulate a pinball game?

8 A On the concept or the idea of the pinball machine  
9 with Clean Sweep and Wipe Out -- some of the -- there was  
10 another game we built called Video Pin at the same time -- a  
11 little later. We never produced the game. We just built the  
12 boards for Midway.

13 Q But that was a simulated pinball game?

14 A Yes.

15 Q And Clean Sweep and Wipe Out also had similar actions  
16 to a pinball game?

17 A Somewhat.

18 Q Was an electro-mechanical pinball game the basis for  
19 the idea of Clean Sweep?

20 A No. It was more the psychological aspect; not the  
21 physical aspect of it. That was true with Video Pin. It was  
22 more the simulation. Clean Sweep and Wipe Out were just kind  
23 of a mental concept.

24 Q Did Ramtek make any attempt other than the Lucky Dice  
25 game to use electronics for a portion of a game that had  
26 previously been electro-mechanical?

27 A I think it was our only attempt at that time.

28 Q And what do you mean by that time?



1 A Well, I mean we have since, you know, probably done  
2 fifty projects that do have similar things.

3 Q I'm still not aware what you mean by that time or  
4 since that time.

5 A Up until 1974 the pinball machine was the first time  
6 we attempted to replace the old fashion relay logic with an  
7 electronic logic.

8 Q And was it your intent to still retain the  
9 electro-mechanical nature of the game?

10 A Absolutely.

11 Q Now, you say that there have been subsequent attempts  
12 along that same line since '74?

13 A Oh yes. We have built machine gun games with full-  
14 blown vibrating machine guns; mechanical, but still all being  
15 driven by a microprocessor.

16 Q When did that occur?

17 A It was about '77 we built that.

18 A There are a whole series of other manufacturers that  
19 have done very similar things.

20 Q Limiting the question to Ramtek, have there been any  
21 others?

22 A We built a driving game where the driving mechanism  
23 was controlled by a microprocessor.

24 Q When was that done?

25 A '78.

26 We built a question and answer game where a tape  
27 recorder was controlled by electronics. It was a mechanical  
28 device controlled by electronic drive. That's about all I can

1 remember offhand.

2 Q Did Ramtek have an exhibit at the M.O.A. Show in  
3 1978?

4 A Yes.

5 Q What was displayed there?

6 A (Pause) I can't remember.

7 Q How about 1979?

8 A I can start from then and back up.

9 In 1979 -- okay, we did not have a display.

10 Q In 1978 we displayed a driving game and a game we  
11 called Boom Ball which was an electro-mechanical game using a  
12 microprocessor control.

13 Q In 1977 we showed a game called Ambush.

14 Q I just asked for '79 and '78.

15 A Mr. Oh, okay.

16 Q Do you recall when Mr. Holt finished his work on the  
17 pinball project?

18 A Other than it was early 1975, I can't remember the  
19 exact time.

20 Q What do you mean by early '75; January?

21 A January, February of '75.

22 MR. WELSH: (To Mr. Harding) Could you locate document  
23 GD181, please?

24 (Whereupon, Mr. Harding looks through a stack of documents  
25 at this time.)

26 MR. HARDING: Do you want me to give it to the witness?

27 MR. WELSH: Yes, please.

28 (Whereupon, Mr. Harding hands a document to the witness

1 at this time.)

2 MR. WELSH: Q You have been handed a document identified  
3 as GD181 and I ask you if you have seen that before, and if  
4 so, could you tell us what that is?

5 THE WITNESS: A It's a -- yes, I have seen it before.

6 Q And what is it?

7 A It's a letter asking for more money -- well, accord-  
8 ing to this I had already agreed to increase the contract  
9 price to \$4,000.

10 Q Had the work been completed by Mr. Holt by this  
11 date?

12 A This letter is dated March 24th, 1975.

13 Q Right.

14 A I have a little trouble with this memory-wise. I  
15 think Mr. Holt was paid more than \$4,000 for the whole con-  
16 tract, but I can't remember for sure.

17 Q Well, does this help refresh your recollection as to  
18 when he completed his work?

19 A Yes. I think it was done when this came to me. We  
20 were -- the contract was over, and I think the argument that  
21 had been going on for some time was that he did more work than  
22 I paid him for.

23 Q Were any of the parts for the pinball project obtain-  
24 ed from Williams?

25 A Well, parts were obtained, I think, from almost all  
26 of the existing pinball machine manufacturers.

27 Q And that included Williams?

28 A Yes, as far as I know.

1 Q Do you recall if Williams was paid for the parts  
2 it supplied?

3 A Were they paid?

4 Q Yes.

5 A I wouldn't know.

6 MR. WELSH: (To Mr. Harding) Could you pull out  
7 Exhibit GD173, please, Mr. Harding.

8 MR. HARDING: Off the record.

9 (Whereupon, there was an off the record discussion at  
10 this time.)

11 MR. WELSH: Q I hand you what has been marked as  
12 document GD173-E and ask if you are familiar with that docu-  
13 ment?

14 THE WITNESS: A Oh, I think I know a little bit about it,  
15 yes.

16 Q What do you know about it?

17 A As a game manufacturer we used to sell some of our  
18 products to Seeberg's distributing network, which in this  
19 case, I believe, was South Atlantic, which is a distributor  
20 that is located down in Georgia or something like that, and,  
21 I think, our accounting department, when it came around to  
22 paying a bill to Williams, found out that something that Mr.  
23 Jones purchased for a pinball machine -- found out that they  
24 owed us money from one of their distributors and just credited  
25 it out, prompting this letter from Williams -- prompting this  
26 letter from Williams saying, "That's not our problem. You  
27 still owe us \$435."

28 Q Do you know if anything happened as a result of the

1 receipt of that letter?

2 A We probably just continued to credit it out.

3 Q Rather than pay Williams the amount set forth --

4 A I would not be surprised.

5 Q Is that your best belief as to what happened?

6 A I have a suspicion we would do that, yes.

7 (Whereupon, there was an off the record discussion between  
8 Mr. Welsh and Mr. Katz at this time.)

9 MR. WELSH: Q Was there a practice at Ramtek in 1974  
10 to assign numbers to development projects?

11 THE WITNESS: A Yes -- project accounting numbers, yes.

12 Q And was such a number assigned to the pinball project?

13 A I cannot say for sure, but I would assume so.

14 Q And what was the purpose in assigning such numbers?

15 A For accumulating cost.

16 Q And how was that done?

17 A Well, once a number is given, a project number, an  
18 accounting number, all charges, both timecards, materials,  
19 services within the company are charged to that number.

20 Q Services such as engineering time?

21 A Well, engineering would be direct cost, but drafting,  
22 reproduction; any kind of office service would be -- would  
23 use that number as a billing number.

24 Q Did you say engineering is a direct cost?

25 A Well, engineering would have a charge number that  
26 would relate directly to that number.

27 Q So engineering is a direct cost against that project?

28 A Absolutely, yes.

1 Q And you had that practice in 1974?

2 A Yes.

3 Q Did you have it in 1975?

4 A Yes.

5 Q So you assume that such a number was assigned to the  
6 pinball project?

7 A Yes.

8 Q Do you have any doubt that it was?

9 A I don't have any doubt that there was a number  
10 assigned to it.

11 Q When documents were collected by your secretary,  
12 what instructions were given as to what documents would be  
13 collected?

14 A Well, I think there were a number of people who  
15 instructed her on exactly what to do and a lot of the things  
16 were where people came and visited us and went through the --  
17 she made available to them what was -- what we had in our  
18 documentation.

19 Q And she collected what those people selected; is  
20 that --

21 A No. It would be somebody would come in -- and I  
22 don't even remember -- I think our first visitor was maybe  
23 a North American Rockwell lawyer who said, "Could I see all of  
24 the chron -- chronological information about pinball machines  
25 about that time?" And so she would go through and let him  
26 look at them, still maintaining our files, and when he found  
27 some things he wanted, she reproduced them and, in fact, I  
28 think our direction was to reproduce them any number of times

so that everybody got a copy. We made four or five copies of everything.

The next thing was to go through our engineering files and pull out all of our schematics and drawings and things, and the same thing was done again. Some of it, like our cost estimates and that, were stuff that we had in our files that were pulled out and reproduced.

I honestly don't remember anybody requesting the development cost numbers and the computer runs from accounting associated with the pinball machine. That may have been something that was overlooked. I haven't seen them.

Q You say you believe the first visitor was from North American -- was it North American Rockwell; a lawyer?

A It was a law firm and it seemed to me he was from Texas.

Q Was that Mr. Harding who is sitting to your right?

A No. It was somebody else.

Q Did you meet with him?

A Just briefly, yes.

Q Did you know him before?

A No.

Q Did anybody introduce him to you?

A No, just a card.

Q Was there more than one visitor at that time?

A Well, there were a few visitors at different times. I think maybe -- and I don't remember who all visited each time, but there were people that visited other people in the company.



1 Q Has any record been kept of those visits?

2 A I would say Wanda Lewis probably has records of the  
3 visitors.

4 Q Is it customary for Ramtek to permit inspection of  
5 files by strangers such as a North American Rockwell lawyer?

6 A Probably so -- in something that doesn't affect us,  
7 and it's somewhat dear to them, if they have a good reasonable  
8 case for it, we have, in a number of cases, opened up our  
9 files to companies being sued by maybe a patent holder of a  
10 patent that Ramtek had developed or we had prior art associated  
11 with it, we have done that in the past, yes.

12 Just recently we did that for Hewlett-Packard to the  
13 tune of about ten thousand documents that were made available  
14 to them.

15 Q You did that voluntarily?

16 A Yes.

17 Q And that was something that had been developed here  
18 before; was it?

19 A We think so, yes.

20 Q And do you consider that the pinball project falls in  
21 the same category?

22 A Well, not totally. I haven't really, you know -- we  
23 are so removed from it that I haven't really taken the time  
24 to make a judgment on it, but I think what I said was not  
25 necessarily. We had developed the earlier -- that we had  
26 designed it. It was dear to them and meant a lot. What I  
27 mean, it was a very expensive proposition and I felt it was  
28 worthwhile, you know -- just good business practice to let the

1 people use our information.

2 Q And that's without any judicial process such as a  
3 subpoena or anything else?

4 A Yes.

5 Q Did you have any interest yourself in providing this  
6 information to North American Rockwell's attorneys?

7 A None whatsoever.

8 MR. RIFKIN: Mr. Welsh, are we going to have a break in  
9 the near future, perhaps?

10 MR. WELSH: Yes, in a couple of minutes we can.

11 Q Have you done any business with any company that is  
12 involved in the Hewlett-Packard case?

13 THE WITNESS: A No, not that I know of.

14 MR. WELSH: Let's take a break.

15 (Whereupon, there was a break at this time.)

16 MR. WELSH: Q Referring again to this letter of June  
17 4th, '75 from Williams to the controller for Ramtek, GD173,  
18 is it correct that you had -- that is, that Ramtek had done  
19 business with another company affiliated with Seeberg?

20 THE WITNESS: A Yes, that's correct.

21 Q And what business was that?

22 A Oh, well, we sold games to one of their distributors.  
23 At that time, in '73 or '74, Seeberg had a string of distribu-  
24 tors covering the country and those distributors sold both  
25 juke boxes, pinball machines and arcade games, so we had sold  
26 games to some of their distributors.

27 Q Has Ramtek ever done any other business with Williams  
28 or Seeberg or any affiliated company?

1 A That would be all that I know of would be through  
2 their distributors.

3 Q Has Ramtek ever done any business with D. Gottlieb?

4 A None at all that I know of.

5 Q Is any business contemplated with Williams or D.  
6 Gottlieb?

7 A None that I know of.

8 Q And how about Rockwell, has any business been done or  
9 is it contemplated with Rockwell?

10 A Not that I know of. There may be some in the past.  
11 There might have been, you know, like a computer display or  
12 something, but it would have been three or four years ago.  
13 I don't know of any recently.

14 Q Did you ever consider that it might enhance the  
15 reputation of the company if Ramtek were established as the  
16 originator of the microprocessor computer pinball game?

17 A Not that I can think of, no.

18 Q You referred to offering the pinball logic to the  
19 three main manufacturers. What happened with respect to  
20 Williams in this regard?

21 A I think both Williams and -- well, I'll take them one  
22 at a time.

23 As near as I can tell, we never had a response back  
24 from Williams, positive or negative.

25 Q Did you approach Williams in some way?

26 A Yes. We were visited by their -- one of their chief  
27 -- whether it was their chief engineer or their head of  
28 engineering visited us.

1 Q Frank Murphy, I believe, you said?

2 A Frank Murphy, exactly.

3 Q Did he visit you at your request?

4 A I believe so, yes.

5 Q What happened during his visit?

6 A We demonstrated the hardware for him, showed him all  
7 the potential features using a programmable logic system and  
8 he thought it was rather interesting and left.

9 Q When did that occur?

10 A I think it was January of '75.

11 Q And what did you say his reaction was?

12 A Noncommittal.

13 Q Was it an extensive presentation?

14 A I thought so, yes.

15 Q Complete with cost projections and --

16 A I don't think we went through cost projections on our  
17 style of game. I think we talked extensively about the cost  
18 of building the logic.

19 Q Did he express any skepticism?

20 A Yes, yes. I think all of the manufacturers that we  
21 talked to expressed skepticism on solid state approaches.

22 Q Did they express why they were skeptical?

23 A There is two ways to answer that. No, they didn't  
24 express why they were skeptical, and other than the fact that  
25 they were -- my own answer to it would be that they didn't  
26 understand it.

27 Q When you say all manufacturers, do you include  
28 Bally, Williams and Gottlieb?

1 A Yes.

2 Q Any others?

3 A Well, Sam Stern, which is now Stern Electronics,  
4 Allied Leisure, and two or three other small manufacturers  
5 that came and looked at it. The company is about our size--

6 Q When did they come; after the May or April time frame  
7 when you did the cost study?

8 A Mostly, yes.

9 Q Was it before the M.O.A. Show?

10 A Before the M.O.A. Show.

11 Q That included Sam Stern and Allied Leisure?

12 A Yes. Sam Stern was unemployed at the time, late '74  
13 or '75, so he visited us about once a month.

14 Q When you say that the manufacturers you believe ex-  
15 pressed skepticism because they didn't understand, what do you  
16 feel they didn't understand?

17 A I don't think they quite grasped the importance of  
18 the versatility of the product with a microprocessor of -- you  
19 know, it's -- they were doing straight cost trade offs and I  
20 had been told, you know, by everyone that looked at it "Oh,  
21 we traded that off in 1971 and it was still the same price."

22 I don't think what they did -- what they didn't  
23 do was consider the added features they were going to get, like  
24 ease of new games of the same board year after year after year.  
25 That's the point that I don't think they understood.

26 Q And you stated, I believe, that Mr. Weinberg of  
27 Gottlieb also visited to look at the machine?

28 A Yes.

1 Q And was that after the April, May '75 time frame?

2 A I think it was before that.

3 Q And what was his reaction?

4 A Pretty much the same, some skepticism and very non-  
5 committal.

6 Q Do you recall who from Atari visited the suite at  
7 the Hilton (sic) at the M.O.A. Show?

8 MR. KATZ: Blackstone.

9 MR. WELSH: Blackstone, I'm sorry, in 1975 to view the  
10 Lucky Dice game?

11 THE WITNESS: Well, the Atari people saw it a number of  
12 times prior to that. We had -- their engineering people came  
13 over, I'd say, in March or April of '75 to look at it. That's  
14 including their chief engineer -- I can't think of his name,  
15 the vice-president of engineering.

16 MR. WELSH: Q Bristow?

17 THE WITNESS: A Bristow, and three people from the  
18 Grass Valley group.

19 Q Do you remember their names?

20 A No, I don't.

21 Q What occasioned their coming over?

22 A Gaymond Schultz presented a paper to the IEEE group --  
23 I'm not sure exactly, I think it may be the microcomputer group  
24 of the IEEE local region in Monterey, and he presented a paper  
25 on microprocessors controlling pinball machines, and they  
26 attended that; the three or four people from Atari, and so  
27 they called up and said, "Gee, we are working on a similar  
28 thing. Can we come over and take a look at yours?" And so I

1 said sure.

2 Q Prior to that time had you or anyone in your company,  
3 to your knowledge, been aware of any work on microprocessor  
4 controlled pinball games at Atari or their engineering group?

5 A Yes, I think so.

6 Here's the kind of things that happen in the game  
7 business. You have a distributor, maybe one of your better  
8 distributors from Philadelphia, for example, comes to visit,  
9 and he'll visit Atari, Ramtek and whoever else is in the area,  
10 and you typically show him what you are building, what you are  
11 going to build next and maybe what you are working on in the  
12 back room, and we always showed our distributors the pinball  
13 machine, and so we would hear back the other direction from  
14 them that they were over at Atari and they saw one over there  
15 too, so it wasn't any big secret, but there were some differ-  
16 ent approaches. I mean, ours -- we, I think, were more  
17 contemplating going into the business at that time than Atari  
18 was, and so we did a complete design, whereas they just added  
19 a microprocessor to an old pinball machine.

20 We were the only two companies I knew for sure that  
21 were working on it.

22 Q At the M.O.A. Show in 1975 did you visit the displays  
23 at the Hilton (sic)?

24 A Yes, I did.

25 Q And did you visit the displays of the Mirco Company?

26 A Yes, I did.

27 Q Did you see a microprocessor pinball game there?

28 A Yes, I did.



1 Q And was that the Spirit of '76?

2 A The Spirit of '76, that was the name, yes.

3 Q Did you reach any conclusions with respect to that  
4 game after you had viewed it?

5 A It was not a very good pinball machine.

6 Q You mean the playfield design and that sort of thing?

7 A Yes.

8 Q Did you make any comparisons between the electronic  
9 control system of that game and that of the Lucky Dice game  
10 at the Blackstone suite?

11 A No, I did not.

12 Q Did any of your personnel?

13 A I believe -- I'm not sure, but I believe that Hal Ivy  
14 took the time to get a demonstration and look at the logic and  
15 talk to the designer. I believe at that time it was where we  
16 heard that it was designed by the Nutting people in Wisconsin.

17 Q Is that the first that you had heard of the Nutting  
18 people?

19 A No, no, no. They were in the game business prior to  
20 that.

21 Q What had you known about them prior to that?

22 A Well, there is two Nuttings; Nutting Associates here  
23 in the valley -- or there used to be, and this was called  
24 Milwaukee Coin back there, and they are brothers, Bill Nutting  
25 -- and I can't remember his brother's name -- well, Nutting,  
26 who seemed to have a little more electronic capability, and he  
27 had done some work for Midway, I believe, on a game. That's  
28 really my only knowledge of both companies.

1 Q A pinball game?

2 A No. They had done some other work for Bally.

3 Q For Midway?

4 A For Midway.

5 Q And you had heard about that before this M.O.A.  
6 Show?

7 A Yes.

8 Q Had you heard of any work on pinball games by Nutting  
9 or Milwaukee Coin prior to becoming aware of the Spirit of  
10 '76?

11 A Yes. I -- I believe so, but I can't really say for  
12 sure. You know, the dates are so darn long ago that they kind  
13 of run together.

14 Q Did you have any contact with representatives of  
15 Intel during the development of the Lucky Dice game?

16 A No.

17 Q Did you hear from any of your personnel about any  
18 conversations with Intel representatives about someone else  
19 using an Intel microprocessor in a pinball game?

20 A That could have been where I heard it first. It  
21 would have been from either Gaymond Schultz or Hal Ivy  
22 probably would have had that contact.

23 Q And that was during the development of the Lucky Dice  
24 game?

25 A Yes.

26 Q Did you have any meetings with either Mr. Harding or  
27 Mr. Rifkin before the deposition was commenced today at 10  
28 o'clock?

1 A They got here about 9:30 and we talked briefly before  
2 we started.

3 Q What did you talk about?

4 A Well, what we were going to try to cover, what they  
5 thought you were going to cover, what they were going to cover,  
6 which is pretty much what we have gone through.

7 Q Did you discuss with them any facts which they  
8 thought would be helpful to their case?

9 MR. RIFKIN: Objection to the question as lacking in  
10 foundation. There is no foundation that this witness knows  
11 what would or would not be helpful to "our case."

12 The question is also indefinite.

13 THE WITNESS: Do you want me to answer it?

14 MR. WELSH: Please.

15 THE WITNESS: I think I asked the question of what was,  
16 you know -- where the case stood and what each side was at  
17 this point in time trying to accomplish; was it prior art or  
18 prior this or was it, you know, simultaneous development,  
19 because I'm not involved in it and I didn't know, so they kind  
20 of explained to me what they thought it was, which was our  
21 position; were we seriously going into the business or were  
22 we not, and that's primarily what they thought they were going  
23 to try to find out.

24 MR. WELSH: Q Do you know if your meeting started  
25 shortly after they arrived here at the plant? I guess, you

26 THE WITNESS: A I got in before they did. I had a  
27 couple meetings going on at the same time, so I guess I don't  
28 know; did I start -- could you ask the question again?

1 Q You stated that the meeting started about 9:30.  
2 About how long did the meeting last?

3 A I have to back up a little bit.

4 I got here about 9:00 -- about 9:00 even and they  
5 were here talking to Tom Adams, Vice-President of Finance in  
6 this room, and I had some things to do in my office, so I  
7 went and took care of business and I came back and we started  
8 just general conversation at about probably 9:30, and then  
9 we talked a little in detail after I asked questions and they  
10 asked some questions about what they were going to try to find  
11 out and where the case was, which was my question.

12 That was about the extent of it.  
13 Q Did they express any views about the patent in suit?

14 A I think they were more curious about what my views  
15 were more than anything, and they -- you know, my own opinion  
16 of what was going on was they were just kind of trying to  
17 find out if I was leaning or hostile either direction towards  
18 either side in the part -- in the suit or if I had -- if my  
19 memory was fairly good as far as all of the things that went  
20 on and what my real involvement was in some of the decisions  
21 that were made during the time we were developing and the time  
22 we were studying the project.

23 Q What did they say in response to your question of  
24 where the case stood?

25 A That was pretty much, I think, that, I guess, you  
26 know, my question was what are we looking for or what both  
27 sides are looking for, particularly the defensive side, prior  
28 part or what, and they felt that they had turned up a lot of

1 prior information -- prior to the patents being applied for  
2 or things had been going on prior to the patents being applied  
3 for.

4 Q Could you be a little more specific about what --

5 A If I remember right, the patents -- the applications  
6 were applied for in June or July of '75 and I know we were  
7 working and had done things and had showed the product to  
8 people prior to that, offered it at least for licensing, and  
9 that they claimed that Atari had worked along the same lines  
10 and other people whom I hadn't even -- Allied Leisure, I guess,  
11 you know. That was kind of all that was discussed really  
12 about prior art, and it's kind of a thing that happens here  
13 in the Santa Clara Valley. We are probably more interested  
14 in the prior art than we are anything else, so -- right or  
15 wrong.

16 (Whereupon, there was an off the record discussion between  
17 Mr. Welsh and Mr. Katz at this time.)

18 MR. WELSH: Q When Mr. Murphy visited your plant and  
19 inspected the Lucky Dice game, did he say anything about  
20 any work that Williams had done with respect to electronic  
21 control of pinball games?

22 THE WITNESS: A He said -- he said nothing to me about  
23 it, and my meeting with Mr. Murphy was probably only twenty  
24 minutes of the four or five hours he was here.

25 Q You mentioned Sam Stern visited about once a month.  
26 During what period of time did that take place?

27 A Oh, from about November of '74, December of '74  
28 through June '75.

1 Q Was it your understanding that he was not employed  
2 at Williams at that time?

3 A I didn't really know what his position was at  
4 Williams or Seeberg, nor did I have an awful lot of discussions  
5 with Sam; maybe went to dinner with him a couple times and  
6 talked to him.

7 Q Were you informed as to why he visited?

8 A I think he was just a good friend of Bob Jonesi's,  
9 a personal friend.

10 Q So it wasn't because he was invited by Ramtek, so  
11 far as you know?

12 A That's right, so far as I know.

13 Q When Mr. Murphy of Williams viewed the game, do you  
14 know whether Mr. Sam Stern at that time was still associated  
15 with Williams or not?

16 A It's my impression that he was not; still associated  
17 with Seeberg.

18 Q Did you have any other meetings with Mr. Stern regard-  
19 ing pinball games or components for them?

20 A Well, the initial meeting with Mr. Stern was -- I  
21 think Mr. Jonesi set up and it was Bob had the impression that  
22 Sam could really help us peddle the product. I mean, he knew  
23 all the people and all the players, and so we had one sit down  
24 meeting with Sam about that, and as far as I know, nothing  
25 ever came of it; any part of it.

26 Q Where did that meeting take place?

27 A At Ramtek.

28 Q And when did that occur?



1 A Well, I have to back up a little bit.

2 There were two meetings on that. It occurred in --  
3 it was after Bob Jonesi came to work for Ramtek and it was  
4 prior to us having a fully completed game which would have been  
5 January of '75, so it was during that six, seven month period.

6 We met with Mr. Stern once at his apartment in  
7 Chicago. That would have been around probably October of '74.

8 Q Do you recall a meeting in Chicago at the M.O.A. Show  
9 in 1975?

10 A Meeting Sam Stern?

11 Q Yes.

12 A I do not recall that.

13 Q What was discussed at the meeting at Mr. Stern's --  
14 did you say apartment?

15 A Nothing.

16 Q Did you say his apartment in Chicago?

17 A I'm sorry, what did you say?

18 Q Did you say you met with Mr. Stern at his apartment  
19 in Chicago?

20 A Yes.

21 Q And what was discussed with respect to pinball, if  
22 anything, at that meeting?

23 A Well, I thought it was going to be a meeting where  
24 we would have a fairly detailed discussion, but it turned out  
25 it was more social than anything and very little of the  
26 business aspect of the pinball machine was discussed.

27 Q And you believe that took place in October of '74?

28 A I think so, yes.



Q Are you aware of whether Allied Leisure came out with a solid state T<sup>2</sup>L game?

A I think they did that at the same -- well, to answer your question, yes, I knew they did.

Q That was a solid state pinball game; right?

A Yes.

Q How did you become informed of that?

A I think I was -- it was through their advertising and, I think, they showed it at the M.O.A. Show.

Q What year?

A Could really have been '74, but for sure by 1975 they showed it at the show.

Q Do you remember the name of the game?

A Can I guess?

Q Whatever your best recollection is.

A I think it was Hee Haw.

Q Does Dynamite sound familiar?

A That's what it was. You are right, Dynamite.

Q Did you actually see the game?

A Well, it was on the floor at the M.O.A. Show. I did not play it.

Q At the meeting with Mr. Stern in his apartment, did you discuss the possibility of Stern investing money in the solid state pinball project?

A That was the object of the meeting, yes.

Q And what occurred in that regard?

A I honestly am not even sure we ever got around to the discussion.

1 Q Did anything ever result from the meeting?

2 A Nothing.

3 (Whereupon, there was an off the record discussion between  
4 Mr. Welsh and Mr. Katz at this time.)

5 MR. WELSH: That completes my direct examination --  
6 cross-examination.

7 FURTHER EXAMINATION BY MR. HARDING

8 MR. HARDING: Q Mr. Ewan, on cross-examination you  
9 testified at length or many times with respect to certain dates  
10 concerning development stages of the pinball game.

11 Do you recall your testimony?

12 THE WITNESS: A Yes.

13 Q In this lawsuit and in this series of depositions  
14 which have taken place to date with respect to Ramtek  
15 personnel or ex-Ramtek personnel, there have been various  
16 circuit schematics and other dated documents which have been  
17 produced and available at the table.

18 Did you refer to any of those documents when you gave  
19 your testimony with respect to the various development stages  
20 of the Ramtek games and the associated dates, and I'm referring  
21 now other than the documents which were identified of record  
22 during the cross-examination?

23 A No, I did not.

24 (Whereupon, there was an off the record discussion between  
25 Mr. Harding and Mr. Rifkin at this time.)

26 MR. HARDING: That's all the questions I have.

27 MR. RIFKIN: I have no questions of this witness.

28 MR. HARDING: Before we go off the record, I think I

1 speak on behalf of Mr. Rifkin, and at this point we would  
2 like to stipulate as to the authenticity of the Ramtek  
3 documents which have been produced here in an attempt to  
4 minimize any further inconvenience of Ramtek personnel.

5 MR. WELSH: I'm not prepared to stipulate to their  
6 authenticity.

7 MR. HARDING: Will you state your reasons?

8 MR. WELSH: I haven't even considered the matter.

9 MR. HARDING: All right. If we have to come back to  
10 California for that matter, why you will hear from us.

11 (Whereupon, there was an off the record discussion at  
12 this time.)

13 MR. HARDING: I see no reason, unless --

14 MR. RIFKIN: Mr. Welsh, do you agree to a signature  
15 before any Notary?

16 MR. WELSH: Yes.

17 MR. RIFKIN: And then it's our wish that the original  
18 be signed, notarized and then filed with the U.S. District  
19 Court in Chicago.

20 MR. HARDING: I have no objection. I do not see why this  
21 deposition transcript comes under the scope of the protective  
22 order, which is presently on file in Chicago, unless the  
23 Bally attorneys have an objection why --

24 MR. WELSH: If the deposition falls within the protective  
25 order, then we'll file it within the terms of the protective  
26 order with respect to it. If it doesn't, it's your deposition,  
27 and I don't feel that any agreement is appropriate either way.

28 MR. HARDING: Well, the only problem, Mr. Welsh, is that

1 the Court Reporter is not at liberty to file the transcript  
2 or to do anything unless we make an agreement on the record.

3 MR. RIFKIN: At least a letter is -- subsequent letter  
4 from us perhaps will enable the transcript to be filed.

5 MR. HARDING: If you are willing at some time to review  
6 the transcript and see if you agree to its filing, well then  
7 that ought to be sufficient.

8 MR. WELSH: I'll agree to look at it.

9 MR. RIFKIN: Is there any reason why it can't be filed  
10 now, as far as you can tell?

11 MR. WELSH: I don't -- I don't feel that it's necessary  
12 for me to respond.

13 MR. RIFKIN: You don't want to respond to that now,  
14 okay..

15 MR. KATZ: Well, if the protective order requires  
16 that it not be filed, unless some other action needs to be  
17 taken, I think we should file it and -- I think --

18 MR. HARDING: Mr. Katz, I feel you understand the  
19 protective order as well as I at this point, and Ramtek, I  
20 think, is a completely independent third party and is not a  
21 predecessor company to any of the other present parties to  
22 this litigation. I doubt whether any of the information that  
23 it has could possibly be trade secret or confidential to any  
24 of the parties of the litigation.

25 Off the record.

26 (Whereupon, there was an off the record discussion at

27 this time.)  
28

1 (Whereupon, at the hour of 4:35 P.M. the deposition was  
2 concluded.)  
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8 CHARLES E. McEWAN  
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